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These two units of the Minnesota Project English curriculum employ transformational grammar in an attempt to make eighth-grade students aware of fundamental facts about their language. Concepts taught in the first unit are (1) that an infinite number of English sentences exists, (2) that a few basic transformations are the basis for a large number of changes in sentence form, (3) that the English auxiliary verb determines many tenses and moods, and (4) that modification of the verb phrase is usually accomplished by an adverb of manner. In addition, drills are designed to give the student insights into computer programming and, possibly, into the human thought process. Concepts emphasized in the second unit are (1) that the extension of reference of nouns is affected by the determiner as well as by the semantic content of the noun itself, (2) that the transformational rules applicable to subject-verb agreement are similar to those that operate in the formation of the passive, (3) that the transformational rules may differ from dialect to dialect, and (4) that the phonological rules governing number are related primarily to the subject of the sentence while those governing intonation pertain to the entire sentence. Both units include sample lectures, discussion questions, numerous worksheets with answers, and unit tests. (JS)

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Unit 803

Structures of Time, Mode, Manner, and Causality

Grade 8

CAUTIONARY NOTE

These materials are for experimental use by Project English fellows and their associates who contributed to their development.

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UNIT 803

STRUCTURES OF TIME, MODE, MANNER AND CAUSALITY

INTRODUCTORY MATERIALS

Like Unit 705, Unit 803 is designed chiefly to teach general language concepts and to develop proficiency in the manipulation of symbols and of sentence elements. Using the theories of transformation grammar and the technique of computerized manipulation, the teacher should try to show the students that language is multi-leveled. Sentences are formed by the operation of phrase structure rules (studied in Units 704 and 705) and by the operation of transformational rules on the phrases thus formed.

The burden of this unit is the discussion of transformation rules and the manner in which such rules produce, or generate, certain sentence groupings. The title of Unit 705 (Syntactic Structures) should not be construed to mean that the products of transformational rules are not "syntactic." Rather, the transformational rules are required to explain fully how certain structures syntactically signal the meanings to which we habitually respond.

For example, transformational rules explain why we habitually understand the passive sentence as a rewording of the active sentence from which it is derived.

Basically, transformation rules are those which operate on the basic phrases by deletion, permutation, or conjunction. These basic operations are illustrated and demonstrated in this unit by the passive, the "there" transformation and the transformation of adjectives into adverbs of manner. Other transformational process are included, but they are supplemental.

Fundamental concepts to be taught include:

--that it would be impossible to write rules for generating English sentences if we had to begin at the first word and proceed to the end for every single possible English sentence (notwithstanding the expectations built up by words in a series.)

--that a few basic transformations are at the bottom of a large number of shifts and changes in form on English sentences;

--that the passive transformation can be performed only on a certain kind of verb, traditionally know as "active." These verbs are listed in the dictionary as "v.t." A verb is listed as "v.t." only if it can undergo the passive transformation.

--that the auxiliary (AUX) is a part of the English verb phrase which takes the place of the many tenses and mood endings of verbs in certain other languages. The semantics of the auxiliary is fairly consistent and can be classified.

--that modification of the verb phrase is usually be means of a so-called adverb of manner. Adverbs of time and place can be listed or derived by using certain prepositions with nouns (phrase-structure); e.g. _on the boat_, _on time_, etc.

This unit is long chiefly because there are many supplementary drills which could be omitted. The drills, moreover, were devised to give the student a notion of computer programming as a means of shifting and reordering data. Thus, the use of abstract symbols (H, Y) and, particularly the use of the place-holder X, are more an introduction to computer programming than to language theory as such. The rationale is the possibility that computer programming reveals some properties of the human thought process: such as the tendency to substitute a symbol for a group of objects or the tendency to learn better facts that are seen as directly contrastive.

The theory of learning involved here is that the child can transfer the method he uses to his other needs for thinking, and that he can understand the language process in a general way by forming parallels with the passive using the method to theorize on his own as he grows older and his rhetorical needs become more of an incentive for him. Still, it seems improbable to this author that there is any better time to teach the fundamental principles of manipulation and reordering than when the child is in junior high school and is still somewhat barren of ideas he can truly call his own or have any great and driving desire to communicate to others.

Through using computer-type operations in the organization and reordering of data, the student should learn the essentially dynamic nature of syntax and a few of the many varieties of paraphrasing. As an introduction to the art of paraphrasing, Unit 803 should lead to a study of style, which will be taken up more directly in Unit 905, "Transformations in Paragraph Revision."

UNIT 803 STRUCTURES OF TIME, MODE, MANNER, AND CAUSALITY

SAMPLE OPENING LECTURE

The computer we met in Unit 705 was for all practical purposes, probably a rather unsatisfactory one. In this age of technology we have a feeling that a machine which cannot produce something isn't worth much The computer we were dealing with in Unit 705 could compare and could pull cards, but it did not make combinations And without combining elements, we cannot produce very much.

Let us just stop for a few minutes to imagine, if we can just what a computer age could do, let's say, for business. What if we had the biggest business in the world What would our computer system have to do for us? Well, this would have to be combined with a lot of things First, there would have to be a telephone system -- hot lines to all the world's major cities, all the nations' capitals, ports, airports, etc. There would be a system of ocean-going, air-borne, and land-transportation vehicles which would carry our products all over the world. There would, of course, be the machinery that would produce our product--probably a lot of it by automation.

But that is where our computer system would have to be calle into use. It will not do us much good to make the goods and send it out if we cannot receive word as to where it is, how much we have sold, how many orders we have ahead, and so on. So we have a vast computer center which keeps the accounts for this huge business enterprise. Every purchase is listed along with the address of the purchaser. Every shipment is accounted for all along the path it takes, even to the point where (by means of two-way radios, electronic memory equipment, recording devices, live TV cameras, and the like) we would be able to intercept, add to, call back, alter, or switch the shipment without wasted transportation. Remittances, whether in the form of checks or cash are tabulated in central and branch offices together with the purchaser's previous sales record. Even salesmen have special files that are completely programmed to provide the central data processing system with every relevant fact needed to deliver the appropriate bonuses, commissions, and medals for achievement.

And besides the recording jobs given to this computer center, there is a production job for it, too. It is the compute work to produce plans for the company's further development, plans for vacations for employees, plans for hiring and retrainin and rechanneling the company's assets That is, the computer center must not only be able to record; we must be able to program processes for it that will produce combinations and conclusions which it would take manpower hours to work out. Would you like to be president?

Does this sound pretty much like a pipe dream? It isn't really so far from actuality as one might think. In fact, while keeping track of a huge business enterprise may seem next to impossible for us, you and I actually control a vast system fully as complicated. You and I control the language we know and speak. You and I have a completely (or nearly complete) specified check on all the sentences we either produce or hear. We know whether what we are saying is English or not. We recognize a foreign language or a pronunciation we are not in the habit of using. We can trace back; that is, paraphrase what we have said in order to get our meaning across better. And the set of sentences we control -- yes, even you in the eighth grade -- is *infinite*. Yet, with a great deal of assurance and ease, we *produce*, for the benefit of those who will listen, hundreds of new and original sentences every day and listen to hundreds more. We even have a certain criterion for excellence in production. We often say, "Well that was original." That is, even when we recognize that something was said in a really new way, we understand what was said and we can compare it to other sentences which were about approximately the same thing.

The "business", then, of speaking, is primarily a matter of production and secondarily a matter of recording, comparing, evaluating, and the like.

Now we have seen that there are many ways of looking at and studying language. There are rhetoricians, anthropolinguist teachers and many others. But it is the grammarian, among all these, who studies language precisely in the *production* of it, He is interested in every aspect of the *production* of language. And if he is a good grammarian, when he talks about and describes language, he will put into his descriptive system the most important thing about language; namely, that it is a system of production, What could be more simple?

A better question might be, What could be more complicated than describing the production of language? But the grammarians are getting smart in this day and age. They are at least trying to describe language in terms of a system of production which we all like to think we know something about. The grammarians now are trying to describe the production of language in terms of computers. That is, they are trying to show how we could *program* the production of sentences.

GENERATION
GENERATIVE

In Unit 705 we learned a little about programming. In that unit, we programmed some comparisons and categorizing. We programmed materials which we chose out of what had already been produced. In this unit, Unit 803, we are going to try to use what we learned in 705 and take the matter one step farther. We are going to try to program into our computer some *production*. Or, perhaps a better term for what our computer is going to do for us as grammarians during this unit is "generation". The description we are going to give of language in this unit will, then, be a "generative" description because it is going to show how to make combinations that will *produce*, or *generate*, combinations from a program which we will give along with a vocabulary.

REVIEW of computer terminology and concepts from 704 and 803.

Let us first list for ourselves once more the important things we have learned about programming:

(All expansion branchings are binary,
There are two stable positions, left and right.
(There are branchings which represent selections.
In expansions both branches must be followed.
In selections, only one branch may be followed.)

CARTESIAN PRODUCT

Now there are a number of ways that computers can be allowed to produce new strings of elements. One of them we have already looked at in 704 -- expansions. Here one element, or symbol is expanded into two. Also, from Unit 704 we have learned about producing new strings of elements from selections. What we have in the case of free selection is known as a Cartesian Product. The Cartesian Product was named after a mathematician named Des Cartes. The Cartesian Product is found by combining all the members of one set in order with all the members of a second or perhaps a third and fourth or any number of sets. Let me show you how this works, though you probably remember a little about the Cartesian Product you did at the end of Unit 704.

To find this Cartesian Product, you are going to have two sets of symbols, a set A and a set B. Each set has four members or elements. Each set is pictured in square brackets to show that a Cartesian Product can be made without any restrictions. Here are the two sets:

Write on board or overhead projector The + may be omitted, but throughout this unit it will be the policy to retain it.

$$\boxed{\begin{array}{c}A\\A_1\\A_2\\A_3\end{array}} + \boxed{\begin{array}{c}B\\B_1\\B_2\\B_3\end{array}}$$

The process, now, is to combine each member of set A with each member of set B in order. We will, then, have A + B; A + B1; A + B2; A + B3; then A_1 + B, etc. Who will volunteer to finish listing all the combinations in this Cartesian Product? ________________How many combinations can this Cartesian Product have?

(16)

N.B. The sets retain their spatial order; Set A is always before Set B.

If we were to add two more symbols to the two sets above and set them up first in combination with each other and then in their two sets, do you think we would add substantially to the number of combinations we could produce?

(Yes)

Indeed we would. We could have the set AC, the set CA, the set AD, the set DA, the set ACD, the set ADC, the set CAD, the set DAC, the set CDA, the DCA all to combine with B: then we could mak make the same number of sets with B instead of A. We could get many more combinations with only two more symbols if we allowed this kind of concatenation inside the sets. If, in addition, we allowed sets combining A and B, in the same set, there would be another large increase in the final product. Does anyone have any idea how many symbols there are in language?

(letters -- 26
sounds, phonemes -- 42-45 or so
words -- hundreds of thousands
sentences -- an infinite set)

Now, think. What kind of rules do you think we have in our heads, what kind of "programs," if the way we make sentences is by Cartesian sets?

(WOW!)

Obviously we must have something else to help us along. Our production must be of a different type or we could never handle it. Our minds, the "original language machines," must have some means of symplifying this system for itself. We may think that computers which could make every possible combination would be of a great achievement if it could handle 10 symbols or 100. But if we could program a language, a natural language such as we speak, for a computer, we would be doing something!

NATURAL LANGUAGE

TEACHER'S NOTE: It might be interesting to tell the students about the Universal Turing Machine, which does produce all possible combinations of a given number of symbols, or to mention the computer which produces "poetry" by making every possible combination with a "poetic" vocabulary, the results then being judged by a person who recognizes "poetry".

It might, nevertheless, be true that under the circumstances with certain small sets of symbols, or elements, that the concept of Cartesian produce is valuable and indeed that it is used by us when we speak and by grammarians when they describe a language. I can think of the lists of pattern practices which you are likely given in Spanish or French class. You get the beginning and the end of a small set of sentences and then you combine the beginnings and the ends in different combinations. This is really a Cartesian Product, as is a multiplication table in mathematics.

It was, really, the work of Units 704 and 705 to provide us with reduction of the number of symbols we would have to use in showing how Cartesian Products could be used in the description of language. What are some of the symbols we have already learned to manipulate in our programming?

(NOM, PRED, BE, V, ADJ, PREP, MODAL, ADV)

Are these the same kind of elements as, for example, Mama, do, It's, big, That's, etc.?

(No. The former are non-terminals (Higher level abstractions) in our programming system. They always have either an expansion or a selection after them. The latter are terminals. They are the pronounceable end result after all the necessary expansion and selection branches have been programmed.)

TEACHER: Reinforce the convention of using capital letters for the non-terminals and small letters for the terminals.

As a final exercise to help you realize why we need this reduction of the number of symbols if we are going to use the notion of Cartesian Product in our grammar, I am going to give you a work sheet to do for tomorrow.

Pass out Worksheet #1.

Unit 803
Worksheet #1

Name ______________________________

1. Make the Cartesian Product for the following two sets of linguistic elements:

It's		Mother
We're	+	big
He's		on the roof
Here's		yesterday

1. It's Mother.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.

II. Mark with an asterisk (the conventional sign for "impossible"), all the combinations above that you do not think sound right for an English speaker to say. Put the asterisk (*) right before the sentence, like this:

21. *There's open.

III. List below the numbers of the combinations which you have given asterisks. After each of these numbers, write the impossible combination and tell what semantic contrasts it violates or state the restriction as clearly as possible which would keep this combination from appearing in a bona fide English speaker's language.

Example: 21. *There's open. Semantic restriction violated: "There" indicates a place and "open" indicates a condition, therefore, they cannot be identified by the BE.
Positional restriction violated: "Open" cannot come after "There's," unless "open" has a noun after it.

Answer Sheet for Worksheet #1

1. It's Mother.
2. It's big.
3. It's on the roof.
4. It's yesterday.
5. We're big.
6. We're on the roof.
7. We're Mother.
8. We're yesterday.
9. He's Mother.
10. He's big.
11. He's on the roof.
12. He's yesterday.
13. Here's Mother.
14. Here's big.
15. Here's on the roof.
16. Here's yesterday.

II. 4.
5.
8.
9.
12.
14.
15.
16.

(It is possible to consider some of these possible if, for example, one were speaking about characters in a skit. Such a possibility, however, constitutes a restriction (semantic).

III. 4. Semantic violation of time.
Position: yesterday must come after "was" not "is".

5. Semantic: violation of Plural.
Position: "Mother" must come after "I'm" not "We're".

8. Semantic: violation of animate-inanimate; of person time.
Position: "Yesterday" must come after "it", not after a personal pronoun.

9. Semantic: violation of gender.
Position: "Mother" must come after "she's" not "He's".

12. Semantic: Same as 8
Position: Same as 8

14. Semantic: violation of position-quality identification.
Position: "Big" must come after something that can be described as taking up space, not after abstract "here" adverb.

15. Semantic: A subtle violation in most grown-up dialects. Children would use it in pretending games. "Here's" usually takes a concrete object, say "a box" for the thing whose position it identifies.
Position: "Prep" + N does not come after "Here's"

16. Semantic: place-time identification is a violation of the copula.
Position: "Yesterday" comes after impersonal "It's," not after "Here's".

Go over Worksheet 1. Ask students to list on the board, or to read for your listing the restrictions they have formulated. The conclusion is to be as near as possible to the paragraph on the right:

Very good. After going over the assignment, we have found that there are a number of restrictions. In fact, if we take each restriction separately, there are almost as many restrictions as there are members in the two sets. Is this a very economical way of starting a Cartesian Product?

(No, what we gained in putting the members down as a set, we lost in stating the restrictions on the set combinations.)

From what we learned in Unit 705, what would this mean?

(That the generalization is now well stated. That these elements did not belong to the same set if this combination is going to be used.)

IMPORTANT

Yet, we also found in Unit 705 that the elements in our second set did, at least, come after BE, didn't we? So, from one point of view, they do belong to the same set. And the first set, at least because each member contains BE in some form, also belong to the same set, don't they? What we ought to conclude, then, is that there are further subsets to be made on the basis of some other categorizing factor. Obviously, if we are going to program Cartesian sets for our computer to use in the generation of sentences, we will have to find some more restrictions to use. Also, if our description is to be simpler rather than more complex, we ought to find a better way to state our restrictions than the above method. In a general way, which restrictions seem more complicated, the semantic or the positional ones?

(The semantic restrictions are more complicated and harder to state clearly; still, they seem to be more general, in a way, than the positional ones.)

And which restrictions probably come first, if the other units we have done have any validity?

(The positional restrictions probably come first.)

There are probably others, but point out that we have really been working with them in Worksheet No. 1 and that they gave us trouble.

Probably no one will know Modal. Even if they do, try to get "Auxiliary."

And since we already have a good way to show position, by expanding a symbol into a right-and left-branching tree-branch diagram, or into a rewrite, we may as well start from there. But perhaps we can find a better set of elements to work on than the large BE groups we used in Worksheet No. 1. Is there any subset you have listed from Unit 705 which would seem to fall into a position along with some other subject?

(The list may, might, can, could, will, would, shall, should, must.)

Does anyone know a name we could give this list?

(Auxiliary, Helper, Modal.)

Pronounced (äks) not as in "ox". (ŏks) Note that this is a common computer term.

The name "Auxiliary" will be the one we will use. Since, however, this is not a complete list of auxiliaries, we will abbreviate "Auxiliary" to AUX (to show that AUX is a non-terminal; a symbol which can be further expanded.) Where does AIX position with regard to the rest of the deep phrase marker?

(After NOM.
Before VERB.)

Which one is it more closely related to?

(Verb, because the binary branch that ends in NOM has a higher node than the binary branch that ends in VERB.)

Handout No. 1
Distribute handout of
Deep Phrase Marker.

Very good memories! Now, to help your memory and also to give you a scheme which it would take us many hours to work out inductively, here is a handout which pictures the base phrase marker a little more completely than we have ever developed it. Right now we will concentrate on the position of AUX + VERB. Note which is left and which is right on the branch from MAIN VERB. Then list once more, on a piece of paper at your desks the list of AUX from 705 which we mentioned a little while ago.

(may, might, can, could, will, would, shall, should, must.)

Are there any other words in your lists that could come VERB?

The purpose in this section of the lesson is to separate out the notion of TENSE. Any means of drawing the attention of the student to Tense markers would be acceptable.

(is, are, was, were, have, has, had, am , can, be.)

And any of these which could position after the "May-might" list?

(be, have; as could be, can be, could have, might have, etc

Would a Cartesian Product of the two lists be feasible?

(No. Could is, could am, etc., are not possible. There would be a large number of restrictions)

If you look carefully at Worksheet No. 1, particularly at some of the semantic restrictions, and also at this list, you may see one of the restrictions that could be made in general.

It may not be possible to get this inductively.

(time. BE and HAVE do not indicate time; is, are, were etc., do indicate time.)

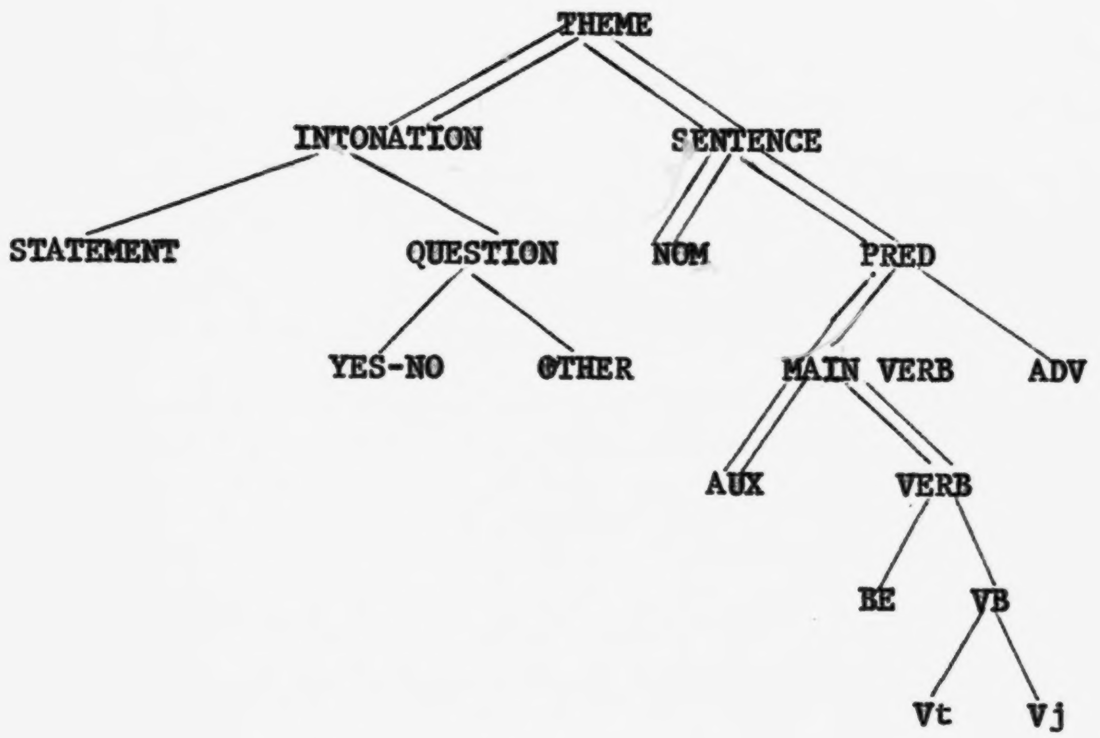
Very good! Now here is a worksheet which will help us all to find out if you really know an indication of "time" when you see it. For the purposes of this worksheet and our future work, we are going to call this special kind of "time" TENSE, and we are going to write it as a non-terminal in our grammatical description.

Distribute Worksheet No. 2

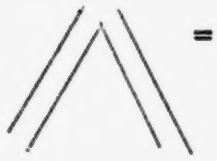
Unit 803
Handout No. 1

Name______________________________

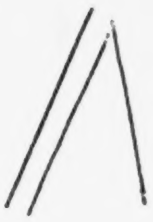
The Base Phrase Marker


THEME
INTONATION
SENTENCE
STATEMENT
QUESTION
NOM
PRED
YES-NO
OTHER
MAIN VERB
ADV
AUX
VERB
BE
VB
Vt
Vj

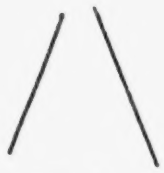
N.B.



= expansion
$A \rightarrow B+C$



= expansion with one "possible"
$B \rightarrow D + (E)$



= selection
$D \rightarrow \begin{Bmatrix} F \\ G \end{Bmatrix}$

Perhaps the teacher would prefer a transparency to a reproduction on the board or on a chart.

Unit 803
Worksheet No. 2

Name ______________________________

1. List the following auxiliaries (AUX) according to the "time" or TENSE they represent:

may, can, shall, will, would, should, might, must, be, is, am, are, was, were, has, have, had, keep, get, kept, got, ought + to, be + to.

____________________ ____________________ ____________________

II Arrange the same list of AUX into categories which would provide for the following phrases. Be sure to pay attention to the order of the lists, placing the first list first, second list second, etc. There are forms which you have not yet accounted for. Disregard them in your lists.

can be
might have gone
could have been going
went
has been
will go
must have seen
may be leaving

keep going
ought to have gone
is leaving
got going
get going
is to leave
were seen
was gone

had gone
has seen
kept leaving
are going

AUX			VERB

Answer Sheet for Worksheet No. 2

1. TENSE

PRESENT

may
can
shall
will
must
is
am
are
has
have
keep
get
ought + to

PAST

might
would
should
could
was
were
had
kept
got

NEITHER

be
be + to

Possibly:

have
ought + to

N.B. Some are almost sure to list "shall" and "will" as something besides present. In going over the worksheet, point out as forcibly as possible, that these two AUX are the expression of a PRESENT intention.

II.

AUX

may
might
can
could
will
would
shall
should
must
ought + to
be + to

have
has
had

be
been
is
are
was
were
keep
kept
get
got

VERB

gone
going
went
seen
leaving
leave

"selection" brackets optional.

Go over Worksheet No.2 The conclusions are summarized at the right.

CONCLUSIONS FROM WORKSHEET no. 2

Even with the lists of AUX divided as we can from examining a list such as the one given will not produce a satisfactory Cartesian Product. Such combinations as could is, will kept, must got, etc., are not acceptable and must be written out of the program by some kind of restriction.

The question is, what will be the most effective restrictions to use? Can you find in the corrected lists you have from Worksheet No. 2 anything about BE which might lead you to restriction that will quite effective in weeding out undesirable combinations?

(BE has a form which is neither PAST nor PRESENT)

Are there any forms in the PAST and PRESENT lists which can be used where "be" can be used?

(keep, get, have)

The generalizations we made about BE in Unit 705 helps to explain the fact that we can say can keep, "Can get" and "can have" but not "can is" How does "I" pair up with "be"?

(We can't say "I be" in most dialects.)

How about "I" with "keep, get, have"?

(We can say "I keep, I get, I have.")

Drill briefly by asking students to form the PRESENT TENSE with "I " or "you" after you give the "infinitive." If they already know the term use it; if not, the term "infinitive" will be introduced a little later on in the unit.

The point is, then, that the forms are the same for keep, get, have, and most other verbs, but not for "be". "Be" keeps the historically older difference between its unmarked tense-less form and its marked tense forms. All the other verbs have lost this difference in form. What looks like PRESENT, then, may just as well be the tenseless form. We can't tell, for both are the same. Can you think of any way to tell the difference?

(Try out the different forms of BE. Where a difference in use shows up, assume that the homphonous forms are used analogously. In terms of the students' language, the concept will be somewhat lengthier to express: If "be" won't work but "is" will, then we must assume that though "keep" works in both places, there really is something different about the two "keeps". As "can be", "can keep", but "is going", "keep going" and not "be going" after "they". Certain dialects, however do use "they be going".

If "be" and "is" are different, what constitutes the difference between them?

N.B.

("Is" has TENSE. It is PRESENT)

And the difference between "be" and "was"?

(Also TENSE. "Was" is PAST.)

What happens to "Keep" when it is PAST.,
(Turns into "kept")

And "get"? "have"? "work"? "see"? "strike"?

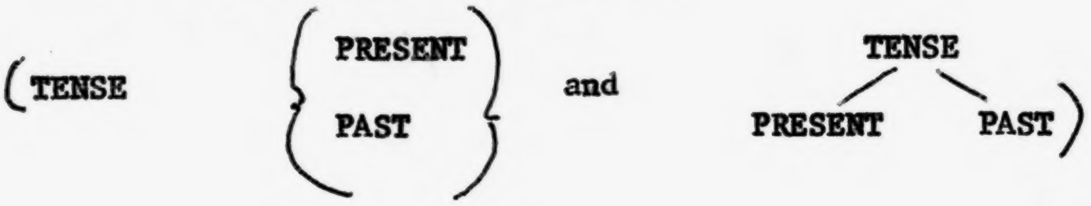
("got", "had"; "worked"; "saw"; "struck";)

If students answer "seen" for PAST of "see", depending on their background in usage, it can be allowed to stand as an alternate with the comment that in "some dialects" this is true. Later in the unit, a more formal basis will be given for preferring "saw", if it must be preferred.

What binary division, then can be made of TENSE?

(PAST and PRESENT)

And can someone indicate how the binary selection will be represented in our grammar?



The teacher should insist that both representations be given of the binary selection, as review of conventions. Explain, if questioned, that using both representations gives us more chances to make ourselves clear.

This binary selection is basic to English. It is the only really necessary part of AUX. You can understand what I mean if you will stop to think that sometimes we do not have a verb phrase. Sometimes, we have only one word as the VERB. When we have only one word in PRED, there doesn't seem to be an AUX at all, does there? But if one of the binary cuts in AUX is actually TENSE, then even when we have a single word in the PRED, there is an AUX. And the reason that we can say the contrast between PRESENT and PAST is basic to English is that we have only Two simple tenses in English -- PRESENT and PAST. All the other tenses in English require more than one word in the verb phrase. In French, for example, there are five simple tenses, five tenses that require only one word in the verb phrase. That shows one of the basic differences between, for example, English and French. But before we go into that, here is a worksheet which will help you see how TENSE works when it is the only AUX.

Disbribute Worksheet No. 3

Unit 803
Worksheet No. 3

Name______________________________

I. Use your knowledge of English to write the PRESENT and the PAST OF the following VERBs. The form that is given is the form analogous to "be". It is the form that we use after "can," "will", and the rest of that list. A model is given in Be and in two other verbs. If you are aware of two alternate forms, write both.

	PRESENT	PAST
I can be	I am	I was
I can say.	I say	I said
I can wait	I wait	I waited
I can read	I ______	I ______
I can find (it)	I ______	I ______
I can look	I ______	I ______
I can drive	I ______	I ______
I can give (it to you)	I ______	I ______
I will dry (it)	I ______	I ______
I will spill (it)	I ______	I ______
I will spell (it)	I ______	I ______
I will store (it)	I ______	I ______
I will drink (it)	I ______	I ______
I will make (it)	I ______	I ______
I will ring (it)	I ______	I ______
I can rap	I ______	I ______

II. Make two lists of the VERBs above. In one list put those which are Written with an -ed in the PAST. In the other list put the rest.

-ed	others

III. Pronounce all the members of the first list above. Do all the ends that are written-ed sound the same? List the ones that are different and tell how they sound, in contrast.

IV. Are any of the PASTs in the second list of part II formed in the same way? List the different forms the PAST takes in the verbs in this list. Then list any other forms you can think of. Perhaps you can find an English handbook that has a list of "irregular" verbs.

Unit 803
ANSWER SHEET for Worksheet No. 3

II.

waited
looked
dried
spilled
spelled
stored
rapped

was
said
read
found
drove
gave
drank
made
rang

III.

[ad]	[d]	[t]
waited	dried	rapped
	spilled	looked
	spelled	
	stored	

IV.

said and read sound alike but they come from different sounds, ey and iy

drink and ring change [I] to [æ]

give: spelled like the above (a), but the [I] changes to [ey]

find: [aI] to [au]
drive: [ai] to [ou]
make: [d] to [k]

All but make are changes in the vowel. Make has a change in the consonant.

The teacher may prefer not to review the phonetic alphabet introduction 701 (or 702) and to let students write their own phonetic forms, but it would be better to review.

EXTRA WORKSHEET #3

Arrange the list of AUX into categories which would provide for the following phrases. Be sure to pay attention to the order of the lists, placing the first list first, second list second, etc.

Underline the phrases you cannot account for.

LIST: may, can, shall, will, would, should, might, must, be, is, am, are, was, were, has, have, had, keep, get, kept, got, ought to, be to

PHRASES:

can be SEEN
might have SEEN
could have been SEEN
want
has been SEEN
will SEE
must have SEEN
may be SEEING
keep SEEING
ought to have SEEN
is SEEING
got GOING
get GOING
is to SEE
were SEEN
was SEEN
had SEEN
has SEEN
kept SEEING
are SEEING

TENSE	MODAL	HAVE	BE	VERB	SUFFIX
______	__________	________	_______	________	
______	__________	________	_______	________	
	__________		________		
	__________				
	__________				
	__________				

Rewrite the following SENTENCES without MODAL. Retain PRESENT.

S → NOM + PRES + MODAL + VERB

S →

MODAL	can
VERB	be say wait read find look drive give dry spill spell store drink make ring rap

List all the verbs that do not make a finished sentence without a second noun after them:

____

ANSWERS FOR EXTRA WORKSHEET #3

Arrange the list of AUX into categories which would provide for the following phrases. Be sure to pay attention to the order of the lists, placing the first list first, second list second etc.

Underline the phrases you cannot account for.

LIST: may, can, shall, will, would, should, might, must, be, is, am, are, was, were, has, have, had, keep, get, kept, got, ought to, be to

PHRASES:

can be SEEN
might have SEEN
could have been SEEN
went
has been SEEN
will SEE
must have SEEN
may be SEEING
keep SEEING
ought to have SEEN
is SEEING
got GOING
get GOING
is to SEE
were SEEN
was SEEN
had SEEN
has SEEN
kept SEEING
are SEEING

TENSE	MODAL	HAVE	BE	VERB	SUFFIX
Past	can	have	be	keep get	ing
Present	may	was	is	go	ed
	shall	has	am	see	
	will		was		
	must		were		
	ought to				
	be to				

Rewrite the following SENTENCES without MODAL. Retain PRESENT:

S ⟶ NOM + PRES + MODAL + VERB

S ⟶ NOM + PRES + VERB

I am
I say
I wait
I read
I find
I look
I drive
I give
I dry
I spill
I spell
I store
I drink
I make
I ring
I rap

Modal	can
Verb	be
	say
	wait
	read
	find
	look
	drive
	give
	dry
	spill
	spell
	store
	drink
	make
	ring
	rap

List all the verbs that do not make a finished sentence without a second noun afte them:

I am
I say
I find
I make

Go over Worksheet No. 3 Conclusions are in the paragraph to the right.

There, that was pretty easy, at least the first part, wasn't it. And we can draw the following conclusions: PAST tense is formed differently in various cases. Some verbs use a change in vowel, some a change in consonant, and some merely add a dental stop. But even this dental stop has different sounds. It is pretty hard, therefore, to find a suitable symbol for the form or morph the past takes with its various verbs. Probably the best thing to do is just to say PAST. Then we can do with PAST whatever is suitable to the dialect we use or the dialect we are learning.

The students should know the word "morph" from other units. If not, teach it to them as part of the conclusions to Worksheet No. 3. The word "morph" is Greek for "form". It is the word grammarians use to keep people from confusing other "forms" with the particular "forms" we want to call attention to - - mainly those which are not separate words but which have separate meanings which they attach to words, as - ed. and its various phonetic shapes has for the verb.

But when we did Worksheet No.3, you may have noticed, we did exercise in a list. We did not use either rewrites or tree-branch diagrams. There was a special reason for that. First, we needed the conclusion about the different forms PAST takes according to the verb we are using. Second, you have to learn something new to be able to program this process for the computer that is going to produce what you just produced. Remember, the directions invited you to use your knowledge of English. But your computer doesn't know English. Your computer only knows what you tell it. And what did you tell it about AUX?

(Chiefly that AUX comes before VERB)

Right, and even if your computer knew exactly which of the various kinds of PAST to put with each verb, what would your computer have done with those morphs?

(Put them all first)

Why would the computer put them first?

(Because they were presented to the computer in that orde

But still, we know enough about English to know that most of the time AUX does come first--at least when there is more to it than just TENSE. What about telling our computer to do a little switching? There are few other examples of things in the language which might need to have their order switched from time to time. If we could just interchange or permute TENSE and VERB when there is only one word in the verb phrase, we would have it made. Let's see how this would work.

PERMUTE

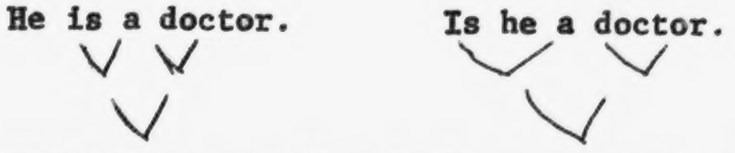
The following steps are a deliberate step in the wrong direction. They are introduced to show 1) that permutations can not be allowed in expansion rules, and 2) that the tree branch has a very specified coding system. Omit with less able students and teach the system directly.

Here is a simple four-word sentence that seems to have a simple permutation, one which is not nearly so complicated as the PAST permutation.

He is a doctor. Is he a doctor.

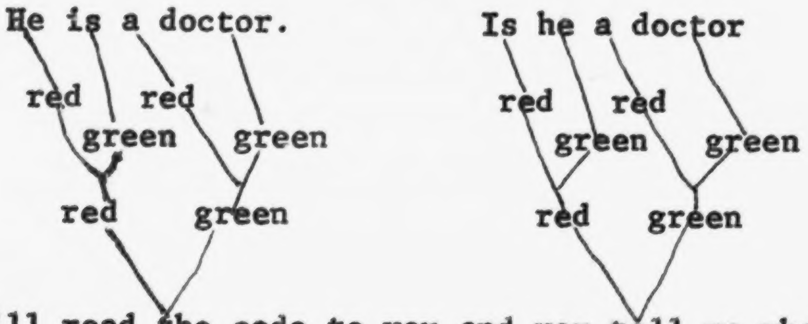
Review, if necessary, the term "reduction" which was introduced in Unit 704

How would reductions of these sentences look in tree branches?


He is a doctor.
Is he a doctor.

Yes, the reductions are identical except that the terminals are different on the branch to the left. Now I am going to take two colors of chalk and code all the left branches red and all the right branches green.

Draw on chalk board or overhead projector.


He is a doctor.
red
red
green
green
red
green
Is he a doctor
red
red
green
green
red
green

Now, I will read the code to you and you tell me what the terminal is: red red

(He and is)

red green

(is and he)

green red

(a)

green green

(doctor)

Which two terminals can I be sure of?

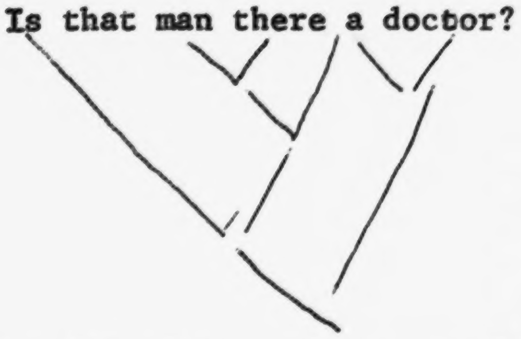
(a and doctor)

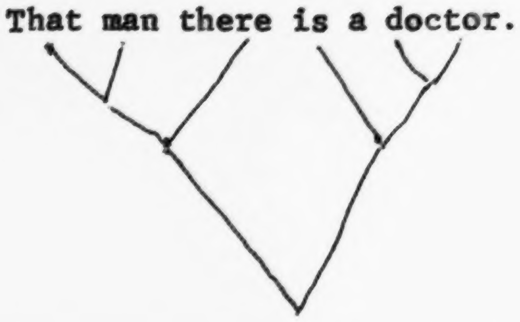
Which two terminals can I not be sure of?

(he and is. I can get each of them with two codes each. This could amount to a possibility of four mistakes for two terminals.)

What kind of a telephone system would we have if our coding was that bad?

In a longer tree, the coding problems would multiply disproportionately. Take for example the following:





Notice, first, that even the reductions in tree branches could not be the same after the permutation of is to the front position. But the coding will really be off.

red red	is
red green red red	that
red green red green	man
red green green	there
green red	a
green green	doctor

red red red	that
red red green	man
red green	there
green red	is
green green red	a
green green green	doctor

Notice that there is only one identical code--green red in these two branches. But green red gives a different terminal each time. You may think, well at least the terminal in each tree has a coding that is unique. But since the sentences are very much the same, (They are about the same situation. The only difference is that one of them is a question and the other a statement.), it could be a great disadvantage to have a different code for every word, depending on whether it is a question or in a statement. Doesn't it seem that "man" ought to have the same code in either a question or a statement?

(This should seem logical.)

And still, obviously, we have to have permutations. And since we are programming for a computer, they better be simple to do, or our friendly little idiot won't get the production right. As far as our little computer is concerned, a three-node code is different from a two-node code and a left branch is different from a right branch. And that's about it.

Vocab:

TRANSFORMATION

There is, of course, a way that the computer can understand and now that we know how to code a tree-branch system, we will go through the process of programming what is known as a transformation. Perhaps you recall that way back in Unit 704 we said we were giving you an introduction to transformational grammar. It was an introduction, but up til now you haven't needed the transformational part of the descriptive system, because so far you have been concerned with learning how to read the descriptions and what symbols to use and what the symbols stood for in a vague sort of way. In computer language, now, a transformation is a special method of keeping the coding system intact which we do a permutation, or perform some other process that would otherwise interrupt the left-and right-branch coding-system we are using--say deletions or combinations of things that alternate, or combinations of elements where in the combining one element drops out, and so on.

Vocab:

PLACE-HOLDER

Basically, what the transformation has that allows it to do permutations is a PLACE-HOLDER. The place-holder is a kind of "electronic memory" which keeps the old coding in mind and then adds on the new coding. It is a place-holder too. Since our system is one of binary branches, the "place-holder" has two ends, an X and a Y, which are so to speak "stuck" into the branching wherever the two elements to be permuted are found. The X and the Y "hold the place" while the two elements are permuted. Then the elements in their new order are returned to the system, complete with their new coding, and the place-holders are removed. Perhaps this will be clear through another diagram.

Distribute Handout No. 2, or use the overhead projector

See next page for Handout No. 2

Vocab.

CONTEXT

There is need to permute elements D22 and C13. The place-holders will be stuck into the context at D21 and D25. To show the permutation in its bare essentials, we will translate D22 and C13 to simpler symbols, X_1 and X_2. By reducing the orde to the subscript numeral, the permutation will show clearly. Later on, in other transformations, we will see why it is convenient to translate all the existent symbols into an X while we do the transformation. First I will show you the rewrite that expresses the actual transformation in the place-holder.

Vocab

DOUBLE ARROW

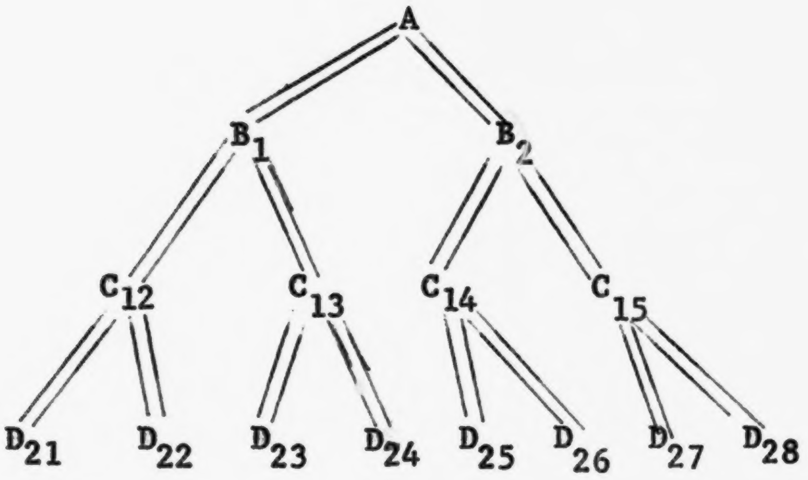
$$X + X_1 + X_2 + Y \qquad X + X_1 + X_2 + Y$$

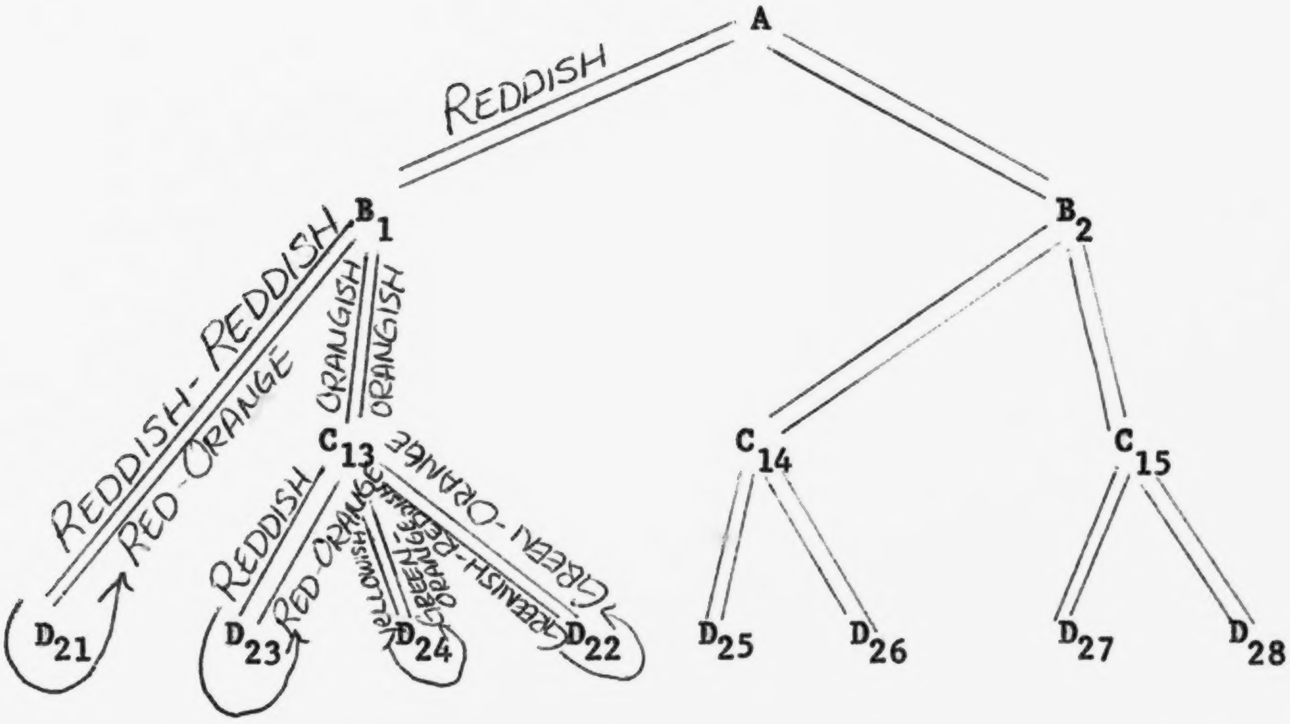
Notice the double arrow, which is the sign of transformation.

Call attention to second diagram on Handout No. 2

Now in terms of the color coding, or left-right coding, this is what has happened.

Unit 803
Handout No. 2


A
B_1
B_2
C_{12}
C_{13}
C_{14}
C_{15}
D_{21}
D_{22}
D_{23}
D_{24}
D_{25}
D_{26}
D_{27}
D_{28}


A
REDDISH
B_1
B_2
REDDISH-REDDISH
RED-ORANGE
ORANGISH
ORANGISH
C_{13}
C_{14}
C_{15}
REDDISH
RED-ORANGE
YELLOWISH
GREEN-ORANGE
REDDISH
GREENISH-REDDISH
GREEN-ORANGE
D_{21}
D_{23}
D_{24}
D_{22}
D_{25}
D_{26}
D_{27}
D_{28}

This is perhaps more understandable if done with colored chalks or overlays on an overhead projector.

Because we have done our permutation with a place-holder our computer "remembers" the old coding. In terms of color (red for left branches, green for right), D_{21} which used to be red red red is now reddish reddish, reddish red-orange (using "orange" to stand for the "transformed" code. D_{22} which used to be red red green, is now reddish, reddish, greenish green-orange. D_{23}, which used to be red, green, red is now reddish, greenish, reddish red-orange. D_{24}, which used to be red green green is now reddish, greenish greenish green-orange. C_{12} has disappeared from the transformed tree-branch diagram, but it is "remembered" in the coding of D_{21} and D_{22}. I admit that the colors are rather sickening, but the important thing is the memory of the system. The rewrite, also, remembers, but the coding is plainer in terms of the left-and rightbranches.

If any student seems to like the idea of coding by the branch system, he can be given this assignment ratherthan the one which will be a part of this section of the unit -- the rewrites.

It will be easier to show you the place-holding system in rewrites if you know what the sentence is that you just worked through. Here it is: You will notice that another transformation has been done which we are not going to explain at this time.

The analysis of this sentence is not to be considered unquestionable. It was chosen for the purpose of illustrating the rewrites.

Our play this morning went off very well.

Transformed: Our this morning's play went off very well.

"Play" and "this morning" (D_{22} and C_{13} with its branches D_{23} and D_{24}) were permuted for stylistic and emphasis. The place-holders X and Y were inserted in the contest at D_{21} (Our) and D_{25} (went off very well -- or just went.)

It is probably better to think of the "context" as being whatever lies between the position of the place-holder and the sentence boundary. The fact remains, that the place holder makes it immaterial which is considered.

To go through the rewrite process step by step, we actually must start out with the deep phrase maker:

PRONOUN-POSS + NOM + ADVERB PHRASE + VERB + ADJUNCT + ADV + ADV

$X + X_1 + X_2 + Y$

TRANSFORMATION PERMUTATION

permutation $X + X_1 + X_2 + Y$

Pronounce with two primary accents.

Then the deep phrase maker is sent through all the process which produce the terminal sentence above, where

PRONOUN-POSS our
NOM play

TRANSFORMATION TERMINAL

terminal Our this morning's play went off very well.

Circulate to see that students are attempting the process.

Obviously, something else has happened to "this morning" than ju permuting it. While we had it out, we did something like add an apostrophe-s (genetive ending) to it. On papers at your desks do the rewrites to show this transformation.

Deep phrase maker.

Our + this morning + play
PROUNOUN - POSS + DEMONSTRATIVE + NOM + NOM

$X + X_1 + X_2 + Y$

TRANSFORMATION GENETIVE

$T\xRightarrow{\text{genetive}} X + X_2 + X_3 + \text{'s} + X_1 + Y$

$\xrightarrow{\text{Remove from Place holder}}$ PRONOUN-POSS + DEM + NOM + 's + NOM + VERB

TRANSFORMATION TERMINAL

Terminal Our this morning's play went:

Even here, actually, there has been another transformation which took play between transformation Genetive and Transformation Terminal. Remember, our computer is really obedient. It won't do a thing you don't tell it to. The process of connecting a word with a morph which is part of that word is Transformation Affixation. The sign of affixation in the rewrites is a plus sign with a circle around it. Sometimes the symbols that are affixed in this way are written right next to each other with no spaces, but here we are not going to do that. Let me show you now, the whole process which we have gone through.

TRANSFORMATION AFFIXATION

PRONOUN-POSS + NOM + DEM + NOM + VERB...Insert in placeholder

$$X + X_1 + X_2 + X_3 + Y$$

$$T\xRightarrow{\text{permutation}} X + X_2 + X_3 + X_1 + Y$$

$$T\xRightarrow{\text{genetive}} X + X_2 + X_3 + \text{'s} + X_1 + Y$$

$$T\xRightarrow{\text{affixation}} X + X_2 + X_3 \oplus \text{'s} + X_1 + Y$$

The rewrites of each symbol as above are really part of this terminal process.

Remove from placeholder

PROUNOUN-POSS	____________OUR
DEM	____________THIS
NOM//	____________MORNING
NOM/	____________PLAY
VERB	____________WENT

PRONOUN-POSS + DEM + NOM $\oplus$'s NOM + VERB...

$T\xRightarrow{\text{TERMINAL}}$ our this morning's play went

Do you think you could program a few sentences for this dumb computer? Remember, each step must be programmed. I will give you a worksheet which has been set up for programming. Transformation Permutation and Transformation Affixation on some verbs are going to be put in PAST. Remember that PAST affixes into different verbs in different ways. (Review quickly) Remember that since AUX is first in the deep phrase marker, PAST must be permuted to its proper position and then affixed onto the Verb. We will do the first two together.

Distribute Worksheet No. 4
Examples included on worksheet.

Unit 803
Worksheet No. 4

Name ______________________________

I. Perform Transformation Permutation and Transformation Affixation on the following strings. The sentences have already been put into the place holder for you. Part of Transformation Terminal has been done.

1. $\text{NOM}_{I} + \text{PAST} + \text{VERB} + \text{ADV}$ Insert in place holder $X + X_1 + X_2 + X_3 + Y$

$\xRightarrow{T\ \text{permutation}}$ $X + X_1 + X_3 + X_2 + X_4 + Y$

$\xRightarrow{T\ \text{affixation}}$ $X + X_1 + X_3 \oplus X_2 + X_4 + Y$

NOM ⟶ BRUCE
VERB ⟶ TRAVEL
ADV ⟶ WIDELY

$\xRightarrow{T\ \text{Terminal}}$ Bruce ____________________ widely

2. $\text{NOM}_{I} + \text{PAST} + \text{VERB} + \text{NOM}_{II}$ Insert in Place-holder $X + X_1 + X_2 + X_3 + X_4 + Y$

permutation

affixation

NOM_{I} THE CHILDREN
VERB LEARN
NOM_{II} SPEECH

$\xRightarrow{T\ \text{terminal}}$ The children ______________________ speech.

3. $\text{NOM}_{I} + \text{PAST} + \text{VERB} + \text{NOM}_{II}$ Insert in Place-holdre $X + X_1 + X_2 + X_3 + X_4 + y$

$\xRightarrow{T\ \text{permutation}}$

$\xRightarrow{T\ \text{affixation}}$

NOM_{I} ⟶ HE
VERB ⟶ INVENTS
NOM_{II} ⟶ GADGETS

$\xRightarrow{T\ \text{terminal}}$ He ______________ gadgets.

Unit 803
Worksheet No. 4 (continued) Name ______________________

4. $\text{NOM}_{I} + \text{PAST} + \text{VERB} + \text{ADJ}$ Insert in Place-holder $X + X_1 + X_2 + X_3 + X_4 + Y$

$\xrightarrow{^{T}\text{permutation}}$

$\xrightarrow{^{T}\text{affixation}}$

$\text{NOM}_{I} \longrightarrow \text{SENTENCES}$
$\text{VERB} \longrightarrow \text{BE}$
$\text{ADJ} \longrightarrow \text{SIMPLE}$

$\xrightarrow{^{T}\text{terminal}}$ Sentences ____________________ simple

5. $\text{NOM}_{I} + \text{PAST} + \text{VERB} + \text{ADJ}$ Insert in Place-holder $X + X_1 + X_2 + X_3 + X_4 + Y$

$\xrightarrow{^{T}\text{permutation}}$

$\xrightarrow{^{T}\text{affixation}}$

$\text{NOM}_{I} \longrightarrow \text{I}$
$\text{Verb} \longrightarrow \text{CONFUSE}$
$\text{NOM}_{II} \longrightarrow \text{HIM}$

$\xrightarrow{^{T}\text{terminal}}$ I ____________________ him.

6. $\text{NOM}_{I} + \text{PAST} + \text{VERB} + \text{ADJ}$ Insert in Place-holder $X + X_1 + X_2 + X_3 + X_4 + Y$

$\xrightarrow{^{T}\text{permutation}}$

$\xrightarrow{^{T}\text{affixation}}$

$\text{NOM} \longrightarrow \text{I}$
$\text{VERB} \longrightarrow \text{BE}$
$\text{ADJ} \longrightarrow \text{HAPPY}$

$\xrightarrow{^{T}\text{terminal}}$

Unit 803
Worksheet No. 4 (continued)

Name______________________________

7. NOM_{I} + PAST + VERB + NOM Insert in place-holder $X + X_1 + X_2 + X_3 + X_4 + Y$

$\xRightarrow{{}^{T}\text{permutation}}$

$\xRightarrow{{}^{T}\text{affixation}}$

NOM_{I} ⟶ CAROL
VERB ⟶ PASTE
NOM_{II} ⟶ PAPERS

$\xRightarrow{{}^{T}\text{terminal}}$

8. NOM_{I} + PAST + VERB + NOM_{II} Insert in place-holder $X + X_1 + X_2 + X_3 + X_4 + Y$

$\xRightarrow{{}^{T}\text{permutation}}$

$\xRightarrow{{}^{T}\text{affixation}}$

NOM_{I} ⟶ BOB
VERB ⟶ CONFUSE
NOM_{II} ⟶ MY LUNCH

$\xRightarrow{{}^{T}\text{terminal}}$

9. NOM_{I} + PAST + VERB + ADV Insert in place-holder $X + X_1 + X_2 + X_3 + X_4 + Y$

$\xRightarrow{{}^{T}\text{permutation}}$

$\xRightarrow{{}^{T}\text{affixation}}$

NOM_{I} ⟶ KATHY
VERB ⟶ TYPE
ADV ⟶ SWIFTLY

$\xRightarrow{{}^{T}\text{terminal}}$

10. NOM_{I} + PAST + VERB + COMPLEMENT Insert in place-holder $X + X_1 + X_2 + X_3 + X_4 + Y$

$\xRightarrow{{}^{T}\text{permutation}}$

$\xRightarrow{{}^{T}\text{affixation}}$

NOM_{I} ⟶ HE
VERB ⟶ GO
COMPLEMENT ⟶ GALUMPHING BACK

$\xRightarrow{{}^{T}\text{TERMINAL}}$

Answer Sheet for Worksheet No. 4

Terminals

3. He invented gadgets.
4. Sentences were simple.
5. I confused him.
6. I was happy.
7. Carol pasted papers.
8. Bob consumed my lunch.
9. Kathy typed swiftly.
10. He went galumphing back.

The important thing about this worksheet is that the students learn to translate carefully and to pay attention to every symbol in the rewrites While there is really nothing difficult about the operation, in its very simplicity, it can be confusing. The affixations when there are more elements in AUX will be more complex, but if the students are careful about these PAST permutations, they should be able to follow them through quickly.

If further sentences are needed, here are a few: The teacher can use discretion in the manner in which they are presented. Here they are half in and half out of the place holder. For presentation to the class it would be best to observe the conventions on the worksheet.

11. Alan + PAST + ADD + numbers (added)

12. The vorpal blade + PAST + GO + snicker-scack. (went)

13. All mimsy + PAST + BE + the borogroves. (were)

14. So + PAST + REST + he by the Tumtum tree. (rested)

15 The CHILD + PAST + DRINK + milk like a separater (drank)

Go over worksheet No. 4, being careful that all of the students can do the steps in order and that they know the names for each process.

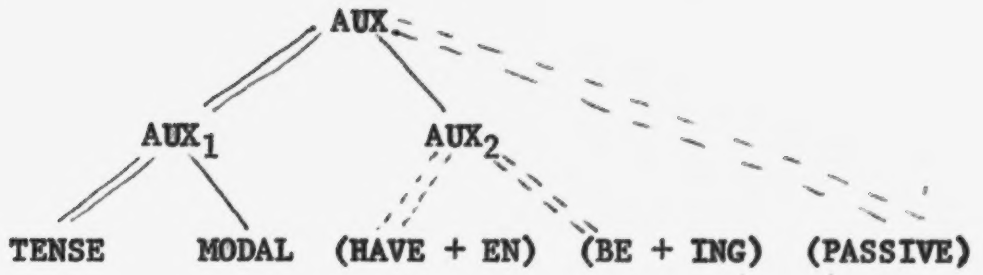
Now perhaps Worksheet No. 4 was not much harder than Worksheet No. 3. You have this feeling, I'm sure, that you are doing very elementary operations, and surely you are. There is, however, a great deal of value in finding out just how elementary these operations seem to you, for when you think a process is easy, that shows how much you know and how much you can produce with very little effort. Too often young people get the impression from teachers and others that they don't know very much. But here, in our studies of language, you can shine. Who really knows more than you? You have a fine and clean record of operations which have led you surely and simply to the place where you can control a large vocabulary of English words to make thousands, yes, millions of sentences, judging them, moreover, by your knowledge of how sentences in English should sound. Perhaps your judgment differs from time to time with the judgment of others, but that is probably because you and the others speak different varieties of English, not because you don't know how the language operates.

But, as we pointed out, knowing how the language operates is not necessarily knowing about your language in a way that allows you to describe it. And for describing a complex and infinite set of sentences in terms that show how they are produced we are using computer programming, which means that we have todo the thing by very elementary steps. It may seem foolish, but if by going through these steps we learn something about the way our minds handle the language we use and something about its history and development, we have found our far more than a few little facts about computers. We have found out something about the factor in our lives that perhaps most truly marks us as human beings. We have found out something which should raise our self-esteem by many degrees, because, I think, not even zoology, or botany or all the physical sciences are really more complicated, and yet we can use language much better than we can use our knowledge of these other things.

Now you know by this time just how long it takes to come to a rule by the inductive method, and so this time I am going to give you another handout. There is no use in borin you to death just to give you all the benefits I have outlined above. Here on this handout is an expansion of AUX according to a noted grammarian Noam Chomsky and his friend Robert B. Lees. Read it carefully and then listen and follow it while I explain what the rewrites show.

Distribute Handout No. 3

Handout No. 3



N.B. The convention of representing expansions and selections breaks down here. Neither (HAVE + EN) nor (BE + ING) is required in any AUX_2, and both can be used at once, no context restrictions can be formulated. The double dotted line is here adopted to show that both members of AUX_2 can be chosen as well as either one without the other.

$\text{AUX} \longrightarrow \text{AUX}_1(\text{AUX}_2)$

$\text{AUX}_1 \longrightarrow \text{TENSE} + (\text{MODAL})$

$\text{AUX}_2 \longrightarrow (\text{HAVE} + \text{EN}) + (\text{BE} + \text{ING}) + (\text{PASSIVE})$

$\text{TENSE} \longrightarrow \begin{Bmatrix}\text{PRESENT}\\ \text{PAST}\end{Bmatrix}$

$\text{MODAL} \quad \begin{Bmatrix}\text{may} & \text{shall} & \text{have + to}\\ \text{can} & \text{must} & \text{ought + to}\\ \text{will} & \text{be + to} & \end{Bmatrix}$

$\text{HAVE} \longrightarrow$ have (also keep, get)

$\text{EN} \quad \begin{Bmatrix}\text{-ed}\\ \text{irregular tense formations}\end{Bmatrix}$

$\text{BE} \longrightarrow$ be

$\text{ING} \longrightarrow$ -ing

The graphemic (spelling) representation of the PAST affix is given here to avoid the complications of going into the phonetics. The graphemic representation of ING is also given here. In certain low level transformations, it is necessary to divide the modals into two groups - - 1) may, can, will, shall, must; and2) be + to, have + to, and ought + to)

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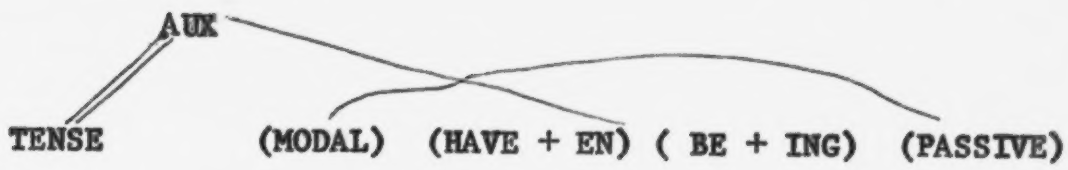
Alternative Handout #3



AUX ⟶ TENSE + (MODAL) (HAVE + EN) (BE + ING) (PASSIVE)

$$\text{TENSE} \rightarrow \begin{Bmatrix}\text{PRESENT}\\ \text{PAST}\end{Bmatrix}$$

$$\text{MODAL} \rightarrow \begin{Bmatrix}\text{may}\\ \text{can}\\ \text{will}\\ \text{shall}\\ \text{must}\end{Bmatrix}$$

HAVE ⟶ have

BE ⟶ be

$$\text{EN} \rightarrow \begin{Bmatrix}\text{ed}\\ \text{irregular tense morphemes}\end{Bmatrix}$$

ING ⟶ -ing

Go over Handout No. 3
(First form)

Notice that there are both expansions and selections in AUX, Which are expansions?

(AUX to AUX$_1$ (AUX$_2$)
and AUX$_1$ to TENSE (MODAL)

But are both members of the expansions obligatory?

For the alternate form, the discussion of obligation is confined to the interpretation of the parentheses, which mean "optional".

(No. AUX$_2$ and MODAL are optional)

We haven't used the double dotted line before. Where is there a double dotted line?

(leading from AUX$_2$ to (HAVE + EN) (BE + ING) (PASSIVE)

This double dotted line, according to the handout means what?

(THat (HAVE + EN) AND (BE + ING) can be used either together or separately, and that it doesn't make any difference which is omitted if one is not used.)

The only obligatory path from AUX is, then, which path?

(The path from AUX through AUX$_1$ to TENSE.)

Can we stop at AUX$_1$?

(no)

Can you think of any differences between MODALs and HAVE or BE

The other difference is that PAST does not have the same semantic effect on the MODals as it has on the other AUX or upon the VERB. This will be brought out in a worksheet later on.

(The modals do not change form in third person singula (with he, she, it, etc.) by adding the -s which appea both in have and be though irregularly.

Can the modals appear after other modals?

(No. "can can, for example, means something entirely different from the modal "can".)

But it is possible to have two haves or two forms of be in the same sentence, I have had it; I am being good.

Distribute Worksheet No. 5

Let's see now if you know what happens to the MODAL when it occurs in the AUX. Here is a worksheet which will give you a chance to find out if you know how to use these words.

Unit 803
Worksheet No. 5

Name________________________________

1. Perform the indicated transformations on the following MODALS. In the first five examples, Transformation Permutation and Transformation Affixation are performed separately. In examples 6-10 these two steps are combined and called auxiliary affixation, abbreviated aux-affix.

1. $\underbrace{\text{PRESENT}}_{X_1} + \underbrace{\text{MODAL}}_{X_2} \xrightarrow{\text{insert in placeholder}} X + X_1 + X_2 + Y$

$\xRightarrow{{}^{T}\text{permutation}} X + X_2 + X_1 + Y$

$\xRightarrow{{}^{T}\text{affixation}} X + X_2 + X_1 + Y$

MODAL ⟶ CAN

$\xRightarrow{{}^{T}\text{terminal}}$ can

2. $\underbrace{\text{PAST}} + \underbrace{\text{MODAL}} \xrightarrow{\text{insert in place-holder}} X + X_1 + X_2 \pm Y$

$\xRightarrow{{}^{T}\text{permutation}}$

$\xRightarrow{{}^{T}\text{affixation}}$

MODAL ⟶ CAN

$\xRightarrow{{}^{T}\text{terminal}}$

3. $\underbrace{\text{PRESENT}} + \underbrace{\text{MODAL}} \xrightarrow{\text{insert in place-holder}} X + X_1 + X_2 + Y$

$\xRightarrow{{}^{T}\text{permutation}}$

$\xRightarrow{{}^{T}\text{affixation}}$

MODAL ⟶ MAY

$\xRightarrow{{}^{T}\text{terminal}}$

4. $\underbrace{\text{PAST}} + \underbrace{\text{MODAL}} \xrightarrow{\text{insert in place-holder}} X + X_1 + X_2 + Y$

$\xRightarrow{{}^{T}\text{permutation}}$

$\xRightarrow{{}^{T}\text{affixation}}$

MODAL ⟶ MAY

$\xRightarrow{{}^{T}\text{terminal}}$

Worksheet No. 5 (con't)

5. $\underbrace{\text{PRESENT}} + \underbrace{\text{MODAL}}$ $\xrightarrow{\text{Insert in place-holder}}$ $X + X_1 + X_2 + Y$

$\xRightarrow{T_{\text{permutation}}}$

$\xRightarrow{T_{\text{affixation}}}$

MODAL ⟶ WILL

$\xRightarrow{T_{\text{terminal}}}$

6. $\underbrace{\text{PAST}} + \underbrace{\text{MODAL}}$ $\xrightarrow{\text{Insert in place-holder}}$ $X + X_1 + X_2 + Y$

$\xRightarrow{T_{\text{aux-affixation}}}$ $X + X_2 \oplus X_1 + Y$

MODAL ⟶ WILL

$\xRightarrow{T_{\text{terminal}}}$

7. $\underbrace{\text{PRESENT}} + \underbrace{\text{MODAL}}$ $\xrightarrow{\text{Insert in place-holder}}$ $X + X_1 + X_2 + Y$

$\xRightarrow{T_{\text{aux-affixation}}}$

MODAL ⟶ SHALL

$\xRightarrow{T_{\text{terminal}}}$

8. $\underbrace{\text{PAST}} + \underbrace{\text{MODAL}}$ $\xrightarrow{\text{Insert in place-holder}}$ $X + X_1 + X_2 + Y$

$\xRightarrow{T_{\text{aux-affixation}}}$

$\xRightarrow{T_{\text{terminal}}}$

MODAL ⟶ SHALL

9. $\underbrace{\text{PRESENT}} + \underbrace{\text{MODAL}}$ $\xrightarrow{\text{Insert in place-holder}}$ $X + X_1 + X_2 + Y$

$\xRightarrow{\text{TAux-affixation}}$

MODAL ⟶ MUST

$\xRightarrow{T_{\text{terminal}}}$

10. $\underbrace{\text{PAST}} + \underbrace{\text{MODAL}}$ $\xrightarrow{\text{Insert in place-holder}}$ $X + X_1 + X_2 + Y$

$\xRightarrow{T_{\text{aux-affixation}}}$

MODAL ⟶ MUST

$\xRightarrow{T_{\text{terminal}}}$

Worksheet No. 5 (cont)

II. Write sentences below in which you supply a context X and Y for the terminal modals above.

EX. $\overbrace{\text{I think I}}^{X}$ can $\overbrace{\text{do this assignment}}^{Y}$

Go over Worksheet No 5
Call attention to the fact
that "must" has no PAST
form

Perhaps you did not notice because we did not put the MODALS in square brackets that we were really doing a Cartesian Product when we permuted and affixed PAST and PRESENT with each of the MODALs. Who can put the two sets on the board to show how the Cartesian Product was formed?

$$\begin{bmatrix}\text{PRESENT}\\ \text{PAST}\end{bmatrix} + \begin{bmatrix}\text{may}\\ \text{can}\\ \text{shall}\\ \text{will}\\ \text{must}\end{bmatrix}$$

Restriction: Must has no PAS

Could the second list of Modals be added to the second set?

(Yes)

Now, can we form a Cartesian Product with the next element in AUX?

(Yes All the modals will combine with "have": can have + EN; may have + EN; might have + EN, etc)

Require the students to take
the entire complex HAVE + EN.

Has anyone any idea why we had to take both elements in HAVE + EN when we made our Cartesian Product with the modals?

(Someone may say because they were both inside the parentheses. This is good, because it carries out the convention of notation we are using Another reason, one also to be sought, is that whenever "have" occurs in the AUX, the following VERB must contain the past participle marker or morpheme.)

Would it be possible to make a Cartesian Product for the following two sets?

$$\begin{bmatrix}\text{can have + EN}\\ \text{might have + EN}\\ \text{have + EN}\\ \text{must have + EN}\end{bmatrix} + \begin{bmatrix}\text{WORK}\\ \text{SKIP}\\ \text{FORGIVE}\\ \text{SING}\end{bmatrix}$$

(Yes. Students should be aware by themselves of the necessity for permuting the EN and affixing it to the VERB)

Do the Transformation Permutation and Transformation Affixatio in your head and give us the Product?

(can have worked
can have skipped
can have forgiven
can have sung etc.)

In this and the following oral exercise it would be best to have the sets on the board or overhead projecter so that after each pair of sets you can draw the double arrow for

$\underrightarrow{{}^{T}\text{permutation}}$

^{T}affixation
which the students are doing mentally.

How about a Cartesian Product with these two sets:

$$\begin{bmatrix}\text{can have + EN}\\ \text{might have + EN}\\ \text{will have + EN}\end{bmatrix} + \begin{bmatrix}\text{be}\\ \text{HAVE}\\ \text{BE + ING}\end{bmatrix}\ \underrightarrow{{}^{T}\text{permutation-affixa}}$$

(can have been
can have had
can have been + ING....etc)

And do you know the reason for retaining the ING if we use BE + ING from AUX$_2$?

(Because if BE + ING is used from AUX$_2$ there will be a following VERB that has ING at the end)

Does the sorting we did in UNIT 803 begin to make sense to yo now? Remember that one of the ways we found BE and the other AUX at all was through the fact that a VERB in ING often turned up after the AUX. Let's do the Cartesian Product for following sets. We'll do Transformation Permutation and Transformation Affixation in our heads.

$$\begin{bmatrix}\text{can have been + ING}\\ \text{would have been + ING}\\ \text{could have been + ING}\\ \text{has been + ING}\end{bmatrix} + \begin{bmatrix}\text{SHINE}\\ \text{SWIM}\\ \text{MAKE}\\ \text{GLUE}\end{bmatrix}\ \begin{matrix}{}^{T}\text{permutation}\\ \\ {}^{T}\text{affixation}\end{matrix}$$

(can have been shining
can have been swimming
can have been making
can have been glueing...etc)

Why are the VERBS written in capital letters in the set here

(Because they are non-terminals. Until the affixation has been done on them, they are not pronounceable; they are not terminals.)

ASSIGNMENT. NO WORKSHEET.

Very good. Now, your assignment for tomorrow is to make com- binations from AUX to make as long a list as you can. Take Handout No. 3 for reference. You may use only one VERB to combine with the AUX. Choose your own Verb. Let's see if anyone can produce the entire possible list without making any mistakes.

Answer Sheet for Assignment on p 18

VERB GO

can go	can have gone	can have been going
could go	could have gone	could have been going
may go	may have gone	may have been going
might go	might have gone	might have been going
will go	will have gone	will have been going
would go	would have gone	would have been going
shall go	shall have gone	shall have been going
should go	should have gone	should have been going
must go	must have gone	must have been going
am to go	am to have gone	am to have been going (?)
is to go	is to have gone	is to have been going (?)
are to go	are to have gone	are to have been going (?)
was to go	was to have gone	was to have been going
were to go	were to have gone	were to have been going
has to go	has to have gone	has to have been going
have to go	have to have gone	have to have been going
had to go	had to have gone	had to have been going
ought to go	ought to have gone	ought to have been going

Go over the assignment with the students Someone is almost sure to have included a combination such as "can have been soaked "

Ask students to justify their answers in this case If someone recognizes the passive, proceed immediately to the explanation that he is correct, and that one of steps in the transformation we call "passive" is to translate that element in the AUX to BE + EN The following enlargement may still be helpful, however, for a better understanding of the semantic value of the passive.

The fact that some of the students have missed the presence in our system of a very important set of AUX is again a sign that you know a lot more of your language than you will ever program for a computer--as do all of us How would we have got out of the computer the combination, for example, "has been fixed"?

(The students should realize by this time that all the verb affixes are in the AUX and that there must be an EN somewhere that has been permuted and affixed into the VERB.)

Good, there certainly is an EN in the AUX which has been affixed into the VERB FIX. Is this EN the one that comes with (HAVE + EN)?

(It can't be because in "has been fixed" that EN has already been used.)

Then there must be another EN. Does anything else belong with it? Consider the verb phrase "has been being made "

(It must come in with a BE.)

Yes, there is another AUX member, Be + EN Do you think it can be used with all possible VERBS? Let's try a short list. We'll run through a trial Cartesian Product with:

$$\begin{bmatrix} \text{have been + EN} \\ \text{was + EN} \\ \text{had been + EN} \\ \text{is + EN} \end{bmatrix} \qquad \begin{bmatrix} \text{FIX} \\ \text{ARRIVE} \\ \text{REMAIN} \\ \text{SEEM} \end{bmatrix} \qquad \xRightarrow[{}^{T}\text{affixation}]{{}^{T}\text{permutation}}$$

(Only the first member of the second set will combine for semantically acceptable results)

The fact that some verbs will not combine with BE + EN explain why it was not included when we showed you the deep phrase marker for AUX. Because BE + EN takes a special vocabulary of verbs, it is necessary to bring it in after those AUX which can be used with all verbs are introduced. This will make a simpler, shorter set of rewrites--one with fewer restrictions than if we had to put a kick-back on every verb in the vocabulary that could not use BE + EN. It's true we have such a kick-back on "must". But that list is short and complete as we have given it to you. The list of VERBS is much longer and would require a good many restrictions to make the AUX work if BE + EN were included from the beginning.

The trick, of course, is to find out how to tell the verbs that will take BE + EN from the verbs that will not take it. Let's go back to our example "FIX.." Let me have several volunteers to produce sentences which contain various AUX strings, not BE + EN.

(I have fixed the clock.
Mary might have fixed the dinner ...etc.)

Are there any sentences which do not have a NOM after them?

(Doubtfully. The sentence "It is fixing." could possibly refer to a photographic process. There might be a slang expression parallel to "It figures")

Take for example the sentence "It is fixing." If you are a photographer you might say that about a picture which is in the solution called "fix." The "fix" is one of the developing solutions used in preparing negatives and printing them. Can you think of any way to indicate what the agent of this process might be. Does the sentence say anything about who the process is done by?

(It really doesn't. One has the impression that it is "fixing by itself.")

The preposition "by" indicates an agent. In the sentence "Mary fixed the clock," who was the fixing done by?

Write the sentence on the board.

(by Mary.)

Whenever there is an agent for an action, this fact can be expressed in a "by" phrase. Who can restate the sentence "Mary fixed the clock" so that it has a "by" phrase telling that Mary is the agent who did the fixing of the clock?

(The clock was fixed by Mary.)

Write on board.

Now if you look carefully at this sentence you will see that much more has been done to "Mary fixed the clock" than just adding BE + EN. What else has been done?

(The "by" has been added and "Mary" and "the clock" have been permuted.)

Excellent observation! And this is what happens whenever the AUX BE + EN is added to the regular AUX string. In addition, the agent of the action (the NOM which stands to the left of the deep phrase marker) is permuted with the object (the NOM)

AGENT
FUNCTION
SEMATIC FUNCTION

TRANSFORMATION
PASSIVE

$T_{passive}$

This may be a good place to stop for the day and give an assignment.

TEACHER'S NOTE. Depending on the amount of time that is spent on transitive verbs, it may be helpful to note that many transitive verbs may have their objects deleted; e.g. steal, sing smoke, clean, and many others. You may wish the students' notebooks to include these subclasses of transitives and also the pseudo-transitives or middle verbs which take no passive transformation. Reference can be made to R.B. Lees, The Grammar of English Nominalizations, Ann Arbor, 1962.

Write the following on the board or overhead projector as you go along.

NOM that stands to the right of V in the deep phrase marker. And in front of tr the first NOM, the subject NOM, the preposition "by" is inserted to state the agent clearly. That is, a word, "by" is inserted to indicate clearly that the NOM following it functions semantically as an agent. "By" is one of the morphemes which is positioned by a transformation and has a semantic funtion. It means "agent" doer of the action.

Of course, since the elements we added did not come in by expansion they must have come in by transformation The transformation that performs this operation is called the Passive Transformation, or Transformation Passive. Since it is programmed only for a special list of verbs, let us first compile a vocabulary for the computer so that once we get the rewrite stated, the machine can go right to work on it and produce its set of sentences with the passive transformation.

> (Have the students make as long a list as possibl in their notebooks. This is a good opportunity to do a little dictionary study Most dictionaries indicate whether the verb is transitive or intransitive. While there may be difficulties with some verbs which are now usually called middle verbs, these will come in handy later on when you may wish to show that all verbs which take a so-called direct object do not have a passive transform ; e.g. "have." There is no The hat was had by John. Included here for your convenience is a short list: shoot, murder, hate, mix, bring.)

Good, this list will keep the computer busy for some time. Now, we'll take our simple little example sentence and show the machine how to go to work on this mammoth vocabulary. And, meantime, let's be grateful that we know how to do this ourselves or possibly your teacher would put you to work on it--the whole list! All we have to do is learn to describe the process for our descriptive grammar.

Notice that here we are going to be concerned with an entire sentence. Our context therefore is relatively unimportant, though we will include it to help you keep in mind that even when we are working on a complete string, we need to have place-holders.

Mary fixed the clock.

Since we are concered with elements that really belong to the deep phrase marker, we will have to reduce this sentence to its deep phrase marker elements.

$$NOM_{I} + PAST + V + NOM_{II}$$

SENTENCE BOUNDARY

Teacher may use this sign or not, as desired, but it should be shown to the students.

Write on board or overhead projector

N.B. In some of the worksheets to follow, this step is divided into Passive and Passive. Passive merely translates X_3(Passive) to BE + EN.

N.B. Auxiliary affixation works thus: whatever verb affix is before the verb because AUX is a left branch in the deep phrase marker or because of the HAVE + EN, BE + ING, and BE + EN complexes, is permuted and added onto the _following_ verb element, no matter which one it is.

Distribute Worksheet No 6

Now put the base phrase marker inside the place-holder. Notice that we can use either part of the sentence as context for the place holder X. . .Y, as we did with "Our play this morning...or we can put the entire sentence between X and Y. In the latter case, X and Y, as context are sentence boundaries. They indicate "silence." A handy sign of sentence boundary (and sometimes of word boundary) is

$$\underbrace{\text{NOM}}_{X_1} + \underbrace{\text{PAST}}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}}_{X_4} + \underbrace{\text{NOM}}_{X_5}$$

$\xrightarrow{\text{Insert in place-holder}}$ $X + X1 + X_2 + X_3 + X_4 + X_5 + Y$

Now pefform Transformation Passive:

${}^{T}\xrightarrow{\text{passive}}$ $X + X_4 + X_2 + (BE + EN) + X_3 + by + X_1 + Y$

$\xrightarrow{\text{Remove place-holder}}$ $\text{NOM}_{''} + \text{PAST} + \text{BE} + \text{EN} + \text{VERB} + \text{by} + \text{NOM}_{'}$

${}^{T}\xrightarrow{\text{aux-affixation}}$ $\text{NOM}_{''} + \text{BE} \oplus \text{PAST} + \text{VERB} \oplus \text{EN} + \text{by} + \text{NOM}_{'}$

And finally, using the following individual symbol rewrites, peform Transformation Temminal:

$\text{NOM}_{'}$	MARY
VERB	FIX
$\text{NOM}_{''}$	THE CLOCK

${}^{T}\xrightarrow{\text{terminal}}$ The clock was fixed by Mary

Now, you may not believe it but the transformation rewrit we have just gone through will work for every verb with every AUX string possible, if the verb belongs to the vocabulary that can take the passive transformation; that is, if the verb is a transitive verb. With this rewrite programmed into its system, a computer with the whole set of transitive verbs could make the entire Cartesian Product of passive transformation in all tenses; that is, with every possible AUX string. Remember, though, it is the computer's job to make every possible string. It is our job--the original language machine's job--to make _only_ the string we need for the job we want it to do. It is _our_ job to know when the string in question is or is not performing its task, and to judge whether we need to transform it or to change its vocabulary or to shift some of the phonetic elements in some way. For tomorrow, though, we shall do a little programming for the computer, just to make ourselves grateful that making all the possible combinations is something for machines and that we, who make the machines, can be more selective about the business. Also to help us realize that we are a lot smarter than the machines we make and we want to _stay_ in control.

Unit 803
Worksheet No. 6 NAME ____________________

Perform Transformation Passive on the following strings:

1. $\underbrace{\text{NOM}}_{X_1} + \underbrace{\text{PAST}}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}}_{X_4} + \underbrace{\text{NOM}}_{X_5}$ Put in $\xrightarrow{\text{place-holder}}$ $X + X_1 + X_2 + X_3 + X_4 + X_5 + Y$

$\xRightarrow{\text{Transformation Passive}}$ $X + X_5 + X_2 + (\text{BE} + \text{EN}) + X_4 + \text{by} + X_1 + Y$

$\xrightarrow{\text{Remove place-holder}}$ NOM + PAST + BE + EN + VERB + by + NOM

$\xRightarrow{\text{Transformation Aux-affixation}}$ $\text{NOM}_2 + \text{BE} + \text{PAST} + \text{VERB} + \text{EN} + \text{by} + \text{NOM}_1$

$\text{NOM}_2 \longrightarrow$ THE BALL
$\text{NOM}_1 \longrightarrow$ JOHN
VERB $\longrightarrow$ HIT

Transformation Terminal $\xRightarrow{\text{T terminal}}$ The ball was hit by John

2. $\underbrace{\text{NOM}}_{X_1} + \underbrace{(\text{PAST}) + \text{BE+ING})}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}}_{X_4} + \underbrace{\text{NOM}_2}_{X_5}$ $\xrightarrow{\text{Put in place-holder}}$ $X + X_1 + X_2 + X_3 + X_4 + X_5 + Y$

$\xRightarrow{T_{\text{passive}}}$ $X + X_5 + X_2 + (\text{BE+EN}) + X_4 + \text{by} + X_1 + Y$

Remove place-holder $\text{NOM}_2 + \text{PAST} + \text{BE} + \text{ING} + \text{BE} + \text{EN} + \text{VERB} + \text{NOM}_1$

$\xRightarrow{T_{\text{aux-affixation}}}$ $\text{NOM} + \text{BE} \oplus \text{PAST} + \text{BE} \oplus \text{ING} + \text{VERB} \oplus \text{EN} + \text{NOM}_1$

NOM_1 FRANCIS

NOM_2 THE CAKE

VERB BAKE

$\xRightarrow{T_{\text{terminal}}}$ The cake was being baked by Francis.

3. $\underbrace{\text{NOM}}_{X_1} + \underbrace{(\text{PAST}) + (\text{HAVE} + \text{EN})}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}}_{X_4} + \underbrace{\text{NOM}}_{X_5}$ $\xrightarrow{\text{Insert in place-holder}}$ $X + X_1 + X_2$ $X_3 + X_4 + X_5 + Y$

$\xRightarrow{T_{\text{passive}}}$ $X + X_5 + X_2 + (\text{BE} + \text{EN}) + X_4 + \text{by} + X_1 + Y$

$\xrightarrow{\text{Remove place-holder}}$ $\text{NOM}_2 + \text{PAST} + \text{HAVE} + \text{EN} + \text{BE} + \text{EN} + \text{VERB} + \text{by} + \text{NOM}_1$

$\xRightarrow{T_{\text{aux-affixation}}}$ $\text{NOM}_2 + \text{HAVE} \oplus \text{PAST} + \text{BE} \oplus \text{EN} + \text{VERB} \oplus \text{EN} + \text{by} + \text{NOM}_1$

$\text{NOM}_1 \longrightarrow$ GEORGE
VERB $\longrightarrow$ LIGHT
$\text{NOM}_2 \longrightarrow$ DYNAMITE

$\xRightarrow{T_{\text{terminal}}}$ The dynamite has been lighted by George.

4. $\underbrace{\text{NOM}}_{X_1} + \underbrace{(\text{PAST + MODAL + HAVE + EN})}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}}_{X_4} + \underbrace{\text{NOM}}_{X_5}$

$\xrightarrow{\text{Insert in place-holder}} X + X_1 + X_2 + X_3 + X_4 + X_5 + Y$

$\xRightarrow{T_{\text{passive}}}$

$\xrightarrow{\text{Remove place-holder}}$

$\xRightarrow{T_{\text{aux-affixation}}}$

$\text{NOM}_1 \longrightarrow$ BRUTUS
$\text{NOM}_2 \longrightarrow$ CAESAR
VERB ⟶ KILL
MODAL ⟶ MAY

$\xRightarrow{T_{\text{terminal}}}$

5. $\underbrace{\text{NOM}}_{1} + (\text{PAST}) + \underbrace{\text{PASSIVE}} + \underbrace{\text{VERB}} + \underbrace{\text{NOM}}$ $\xrightarrow{\text{Insert in place-holder}} X + X_1 + X_2 + X_3 + X_4 + X_5 + Y$

$\xRightarrow{T_{\text{passive}}}$

$\xrightarrow{\text{Remove place-holder}}$

$\xRightarrow{T_{\text{aux-affixation}}}$

$\text{NOM}_1 \longrightarrow$ ORWELL
$\text{NOM}_2 \longrightarrow$ THE NOVEL
VERB ⟶ WRITE

T_{terminal}

6. $\underbrace{\text{NOM}}_{1} + \underbrace{(\text{PRESENT + MODAL + BE + ING})} + \underbrace{\text{PASSIVE}} + \underbrace{\text{VERB}} + \underbrace{\text{NOM}_2}$ $\xrightarrow{\text{Insert in place-holder}} X + X_1 + X_2 + X_3 + X_4 + X_5 + Y$

$\xRightarrow{T_{\text{passive}}}$

$\xrightarrow{\text{Remove place-holder}}$

$\xRightarrow{T_{\text{aux-affixation}}}$

$\text{NOM}_1 \longrightarrow$ THE STUDENTS
$\text{NOM}_2 \longrightarrow$ SOME SHORT STORIES
VERB ⟶ READ

$\xRightarrow{T_{\text{terminal}}}$

7. $\underbrace{\text{NOM}}_{1} + \underbrace{(\text{PRESENT + HAVE + EN + BE + ING})} + \underbrace{\text{PASSIVE}} + \underbrace{\text{VERB}}_{2} + \underbrace{\text{NOM}}$ $\xrightarrow{\text{Insert in place-holder}} X + X_1 + X_2 + X_3 + X_4 + X_5 + Y$

$\xRightarrow{T_{\text{passive}}}$

$\xrightarrow{\text{Remove place-holder}}$

$\xRightarrow{T_{\text{aux-affixation}}}$

$\text{NOM}_1 \longrightarrow$ JOHN
$\text{NOM}_2 \longrightarrow$ BILL
VERB ⟶ SLUB

$\xRightarrow{T_{\text{terminal}}}$

ANSWERS For Worksheet No. 6

4. $\xRightarrow{{}^{T}\text{passive}}$ $X + X_5 + X_2 + (BE + EN) + X_4 + by + X_1 + Y$

$\xRightarrow{\text{Remove place-holder}}$ $NOM_2 + PAST + MODAL + HAVE + EN + BE + EN + VERB + by + NOM,$

$\xRightarrow{{}^{T}\text{aux-affixation}}$ $NOM_2 + MODAL + PAST + HAVE + BE + EN + VERB + EN + by + NOM,$

$\xRightarrow{{}^{T}\text{terminal}}$ Caesar might have been killed by Brutus.

5. $\xRightarrow{{}^{T}\text{passive}}$ $X + X_5 + X_2 + (BE + EN) + X_4 + by + X + Y$

$\xRightarrow{\text{Remove place-holder}}$ $NOM_2 + PAST + BE + EN + VERB + by + NOM,$

$\xRightarrow{{}^{T}\text{aux-affixation}}$ $NOM_2 + BE + PAST + VERB + EN + by + NOM,$

$\xRightarrow{{}^{T}\text{terminal}}$ The novel was written by Orwell.

6. $\xRightarrow{{}^{T}\text{passive}}$ $X + X_5 + X_2 + (BE + EN) + X_4 + by + X_1 + Y$

$\xRightarrow{\text{Remove place-holder}}$ $NOM_2 + PRESENT + MODAL + BE + ING + BE + EN + VERB + by + NOM,$

$\xRightarrow{{}^{T}\text{aux-affixation}}$ $NOM_2 + MODAL + PRESENT + BE + ING + VERB + EN + by + NOM,$

$\xRightarrow{{}^{T}\text{terminal}}$ Some short stories must be being read by the students.

7. $\xRightarrow{{}^{T}\text{passive}}$ $X + X_5 + X_2 + (BE + EN) + X_4 + by + X_1 + Y$

$\xRightarrow{\text{Remove place-holder}}$ $NOM_2 + PRESENT + HAVE + EN + BE + ING + BE + EN + VERB + by + NOM,$

$\xRightarrow{{}^{T}\text{aux-affixation}}$ $NOM_2 + HAVE + PRESENT + BE + EN + BE + ING + VERB + EN + by + NOM,$

$\xRightarrow{{}^{T}\text{terminal}}$ BILL has been being slugged by John

Supplementary Worksheet No. 6

1. Rewrite AUX in the following, Follow the MODEL given.

Example: PRESENT + CAM + HAVE + EN + BE + ING + BLIGHT ^{T}aux-affixation

^{T}terminal CAN + PRESENT + HAVE + BE + EN + BLIGHT + ING
Can have been blighting.

1. PAST + MAY + HAVE + EN + BITE
2. PAST + WILL + BE + INFURIATE + ING
3. PRESENT + WILL + BE + ING + START
4. PRESENT + MUST + HAVE + EN + SKI
5. PAST + SHALL + BE + ING + ADMIT
6. PAST + HAVE + EN + IDENTIFY
7. PRESENT + TOUGHEN
8. PAST + ORGANIZE
9. PAST + BE + ING + SIDESTEP
10. PAST + WILL + GRIND
11. PRESENT + HAVE + EN + RESIGN
12. PRESENT + BE + ING + SUE
13. PRESENT + HAVE + EN + BE + ING + OFFEND

ANSWERS to Supplementary Worksheet No. 6

1. $\xRightarrow{{}^{T}\text{aux-affixation}}$ MAY + PAST + HAVE + BITE + EN

$\xRightarrow{{}^{T}\text{terminal}}$ might have bitten

2. $\xRightarrow{{}^{T}\text{aux-affixation}}$ WILL + PAST + BE + INFURIATE + ING

$\xRightarrow{{}^{T}\text{terminal}}$ would be infuriating

3. $\xRightarrow{{}^{T}\text{aux-affixation}}$ WILL + PRESENT + BE + START + ING

$\xRightarrow{{}^{T}\text{terminal}}$ will be starting

4. $\xRightarrow{{}^{T}\text{aux-affixation}}$ MUST + PRESENT + HAVE + SKI + EN

$\xRightarrow{{}^{T}\text{terminal}}$ must have skied

5. $\xRightarrow{{}^{T}\text{aux-affixation}}$ SHALL + PAST + BE + ADMIT + ING

$\xRightarrow{{}^{T}\text{terminal}}$ should be admitting

6. $\xRightarrow{{}^{T}\text{aux-affixation}}$ HAVE + PAST + IDENTIFY + EN

$\xRightarrow{{}^{T}\text{terminal}}$ had identified

7. $\xRightarrow{{}^{T}\text{aux-affixation}}$ TOUGHEN + PRESENT

$\xRightarrow{{}^{T}\text{terminal}}$ toughen (s)

8. $\xRightarrow{{}^{T}\text{aux-affixation}}$ ORGANIZE + PAST

$\xRightarrow{{}^{T}\text{terminal}}$ organized

9. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + SIDESTEP + ING

$\xRightarrow{{}^{T}\text{terminal}}$ was sidestepping

10. $\xRightarrow{{}^{T}\text{aux-affixation}}$ WILL + PAST + GRIND

$\xRightarrow{{}^{T}\text{terminal}}$ would grind

11. $\xRightarrow{{}^{T}\text{aux-affixation}}$ HAVE + PRESENT + RESIGN + EN

$\xRightarrow{{}^{T}\text{terminal}}$ have resigned

12. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PRESENT + SUE + ING

$\xRightarrow{{}^{T}\text{terminal}}$ is sueing

13. $\xRightarrow{{}^{T}\text{aux-affixation}}$ HAVE + PRESENT + BE + EN + OFFENDING + ING

$\xRightarrow{{}^{T}\text{terminal}}$ have been offending

SUPPLEMENTARY WORKSHEET NO, 6 (In case students need extra drill in usage of irregular verbs.)

1. Perform Transformation Auxiliary Affixation on the following VERBS.

   1. PAST + (BE + EN) + FORGIVE

   2. PAST + BE + EN + DRIVE

   3. PAST + BE + EN + BECOME

   4. PAST + BE + EN + SHOOT

   5. PAST + BE + EN + GIVE

   6. PAST + BE + EN + THROW

   7. PAST + BE + EN + THINK

   8. PAST + BE + EN + BRING

   9. PAST + BE + EN + STRIVE

   10. PAST + BE + EN + SHRINK

II. (optional) Write out the missing steps from the above programs.

III. (optional) Make a list of all the irregular verbs which actually use EN in their terminal as -en. Then see how many of these verbs will take the passive transformation and how many of the ones that take the passive transformation can have their objects deleted in the basic active sentence (before transformation).

ANSWERS to Supplementary Worksheet No. 6

1. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + FORGIVE + EN

   $\xRightarrow{{}^{T}\text{terminal}}$ was forgiven

2. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + DRIVE + EN

   $\xRightarrow{{}^{T}\text{terminal}}$ was driven

3. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + BECOME + EN

   $\xRightarrow{{}^{T}\text{terminal}}$ was become (archaic)

4. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + SHOOT + EN

   $\xRightarrow{{}^{T}\text{terminal}}$ was shot

5. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + GIVE + EN

   $\xRightarrow{{}^{T}\text{terminal}}$ was given

6. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + THROW + EN

   $\xRightarrow{{}^{T}\text{terminal}}$ was thrown

7. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + THINK + EN

   $\xRightarrow{{}^{T}\text{terminal}}$ was thought

8. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + BRING + EN

   $\xRightarrow{{}^{T}\text{terminal}}$ was brought

9. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + STRIVE + EN

   $\xRightarrow{{}^{T}\text{terminal}}$ was strivin (archaic?)

10. $\xRightarrow{{}^{T}\text{aux-affixation}}$ BE + PAST + SHRINK + EN

    $\xRightarrow{{}^{T}\text{terminal}}$ was shrunken (shrunk)

22h

English 803

Supplementary Worksheet No. 6 Name ______________________

A. Mark off the place-holder X's in the following rules.

1. $\text{NOM}_1 + \text{AUX}_1 + \text{PASSIVE} + \text{VERB}_1 + \text{NOM}_2$

2. $\text{DET} + \text{N} \oplus \text{SING}_{3} + \text{PAST} + \text{PASSIVE} + \text{VERB}_{T} + \text{DET} + \text{N} \oplus \text{PLURAL} \oplus \text{OBJECTIVE}$

3. $\text{N}_{P} \oplus \text{SING}_{1} + \text{PRESENT} + \text{MODAL} + \text{PASSIVE} + \text{VERB}_{T} + \text{SING}_{3} + \text{N}_{P} \oplus \text{OBJECTIVE}$

4. $\text{N}_{P} \oplus \text{PLURAL}_{3} + \text{PRESENT} + \text{HAVE} + \text{EN} + \text{PASSIVE} + \text{VERB}_{1} + \text{N}_{P} \oplus \text{PLURAL}_{1} \oplus \text{OBJECTIVE}$

5. $\text{N}_{\text{proper}} + \text{PAST} + \text{BE} + \text{ING} + \text{PASSIVE} + \text{VERB}_{T} + \text{N} \oplus \text{SING}_{1} \oplus \text{OBJECTIVE}$

B. Write verbal directions for working the following rules:

1. ${}^{T}\xRightarrow{\text{passive}}$
2. ${}^{T}\xRightarrow{\text{passive}}$
3. ${}^{T}\xRightarrow{\text{permutation}}$
4. ${}^{T}\xRightarrow{\text{affixation}}$
5. ${}^{T}\xRightarrow{\text{terminal}}$

C. Choose a rule from 2-5 ABOVE and do the entire passive transformation below.

RULE:

$\xrightarrow{\text{Insert in place-holder}}$

${}^{T}\xRightarrow{\text{passive}}$

${}^{T}\xRightarrow{\text{passive}}$

$\xrightarrow{\text{remove from place-holder}}$

${}^{T}\xRightarrow{\text{permutation}}$

${}^{T}\xRightarrow{\text{affixation}}$

$\xrightarrow{\text{select } \text{N}_1}$

$\xrightarrow{\text{select } \text{V}_T}$

$\xrightarrow{\text{select } \text{N}_2}$

ANSWERS TO SUPPLEMENTARY WORKSHEET #6 Name____________________________

1. $\underbrace{\text{NOM}_1}_{X_1} + \underbrace{\text{AUX}_1}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}_T}_{X_4} + \underbrace{\text{NOM}_2}_{X_5}$

2. $\underbrace{\text{DET} + \text{N} \oplus \text{SING}_3}_{X_1} + \underbrace{\text{PAST}}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}_T}_{X_4} + \underbrace{\text{DET} + \text{N} \oplus \text{PLURAL} \oplus \text{OBJECTIVE}}_{X_5}$

3. $\underbrace{\text{N}_p \oplus \text{SING}}_{X_1} + \underbrace{\text{PRESENT} + \text{MODAL}}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}_T}_{X_4} + \underbrace{\text{SING}_3 + \text{N}_p \oplus \text{OBJECTIVE}}_{X_5}$

4. $\underbrace{\text{N} \oplus \text{PLURAL}}_{X_1} + \underbrace{\text{PRESENT} + \text{HAVE} + \text{EN}}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}_T}_{X_4} + \underbrace{\text{N}_p \oplus \text{PLURAL}_1 \oplus \text{OBJECTIVE}}_{X_5}$

5. $\underbrace{\underset{\text{proper}}{\text{N}}}_{X_1} + \underbrace{\text{PAST} + \text{BE} + \text{ING}}_{X_2} + \underbrace{\text{PASSIVE}}_{X_3} + \underbrace{\text{VERB}_T}_{X_4} + \underbrace{\text{N}_p \oplus \text{SING}_1 \oplus \text{OBJECTIVE}}_{X_5}$

1. $\xRightarrow{^{T}\text{passive}}$ translate PASSIVE TO BE + EN

2. $\xRightarrow{^{T}\text{passive}}$ permit X and X ; add BY after X

3. $\xRightarrow{^{T}\text{permutation}}$ permit TENSE and EN and/or ING to the next consecutive position.

4. $\xRightarrow{^{T}\text{affixation}}$ affix whatever was permuted in the above rule.

5. $\xRightarrow{^{T}\text{terminal}}$ select words to fit the rules above.

RULE: N + PLUR + PRESENT + HAVE + EN + PASSIVE + VERB + N + PLUR + OBJECTIVE

$\xrightarrow{\text{Insert in place-holder}}$ $X + X_1 + X_2 + X_3 + X_4 + X_5 + Y$

$\xRightarrow{^{T}\text{passive}}$ $X + X_1 + X_2 + \text{BE} + \text{EN} + X_4 + \text{BY} + X_5 + Y$

$\xRightarrow{^{T}\text{passive}}$ $X + X_5 + X_2 + \text{BE} + \text{EN} + X_4 + \text{BY} + X_1 + Y$

$\xrightarrow{\text{remove from place-holder}}$ $\text{N}_p + \text{PLUR}_3 + \text{PRESENT} + \text{HAVE} + \text{EN} + \text{BE} + \text{EN} + \text{VERB}_T + \text{BY} + \text{N}_p \oplus \text{PLUR} + \text{OBJECTIVE}.$

$\xRightarrow{^{T}\text{permutation}}$ $\text{N}_p \oplus \text{PLUR}_1 + \text{HAVE} + \text{PRESENT} + \text{BE} + \text{EN} + \text{VERB}_T + \text{EN} + \text{BY} + \text{N}_p \oplus \text{PLUR}_3 \oplus \text{OBJ}$

$\xRightarrow{^{T}\text{affixation}}$ $\text{N}_p \oplus \text{PLUR}_1 + \text{HAVE} \oplus \text{PRESENT} + \text{BE} \oplus \text{EN} + \text{BY} + \text{N}_p \oplus \text{PLUR}_3 \oplus \text{OBJECTIVE}$

$\xrightarrow{\text{select } \text{N}_1}$ they
$\xrightarrow{\text{select } \text{V}_T}$ attack
$\xrightarrow{\text{select } \text{N}_2}$ us

$\xRightarrow{^{T}\text{terminal}}$ we have been attacked by them.

Supplementary Worksheet No. 6 Unit 803 Name ____________

Read Carefully: Then do the indicated Transformations

$\underbrace{DET + NOM \oplus SING_3}_{X_1} + \underbrace{PAST + MODAL + (HAVE + EN) + (BE + ING)}_{X_2} + \underbrace{(PASSIVE)}_{X_3} + \underbrace{VERB_T}_{X_4} + \underbrace{DET + NOM \oplus PLUR}_{X_5}$

$\xRightarrow{\text{insert in place holder}}$ X + + Y

$T_{passive_1} \Longrightarrow$

$T_{passive_2} \Longrightarrow$

$NOM \oplus SING_3 \longrightarrow$

$MODAL \longrightarrow$

$VERB_T \longrightarrow$

$NOM \oplus PLUR \longrightarrow$

$T_{terminal} \Longrightarrow$

---

2 X_2 PRES + HAVE + EN + PASSIVE

$T_{passive_1} \Longrightarrow$

$T_{passive_3} \Longrightarrow$

$NOM \oplus SING_3 \longrightarrow$

$VERB_T \longrightarrow$

$NOM \oplus PLUR \longrightarrow$

$T_{terminal} \Longrightarrow$

---

3 X_2 PRESENT

$T_{passive_1} \Longrightarrow$

$T_{passive_2} \Longrightarrow$
(same selection rule as 2)

$T_{terminal} \Longrightarrow$

DET + NOM + SING + PAST + MODAL + (HAVE + EN) + (BE + ING) + (PASSIVE) + VERB + DET + NOM + PLUR + OBJ

Insert in place-holder $X + X_1 + X_2 + X_3 + X_4 + X_5 + Y$

$T_{passive}$ $X + X_1 + X_2 + BE + EN + X_4 + BY + X_5 + Y$

$T_{passive}$ $X + X_5 + X_2 + BE + EN + X_4 + BY + X_1 + Y$

Remove from place-holder DET + NOM + PLURAL + PAST + MODAL + HAVE + EN + BE + ING + BE + EN + VERB + BY + DET + NOM + SING + OBJ

NOM + SING	dog
MODAL	can
VERB	chase
NOM + PLUR	automobile

$T_{terminal}$ The automobiles could have been being chased by the dog.

---

2 X_2 PRES + HAVE + EN

$T_{passive}$ $X + X_1 + X_2 + BE + EN + X_4 + X_5 + Y$

$T_{passive}$ $X + X_5 + X_2 + BE + EN + X_4 + BY + X_1 + Y$

Remove from place-holder DET + NOM + PLUR + PRES + HAVE + EN + BE + EN + VERB + BY + DET + NOM + SING + OBJ

NOM + SING	dog
VERB	chase
NOM + PLUR	automobiles

$T_{terminal}$ The automobiles have been chased by the dog.

---

3 X_2 PRESENT

$T_{passive}$ $X + X_1 + X_2 + BE + EN + X_4 + X_5 + Y$

$T_{passive}$ $X + X_5 + X_2 + BE + EN + X_4 + BY + X_1 + Y$
(same selection rules as 2)

Remove from place-holder DET + NOM + PLUR + PRES + BE + EN + VERB + BY + DET + NOM + SING + OBJ

$T_{terminal}$ The automobiles were chased by the dog.

2 OF 3

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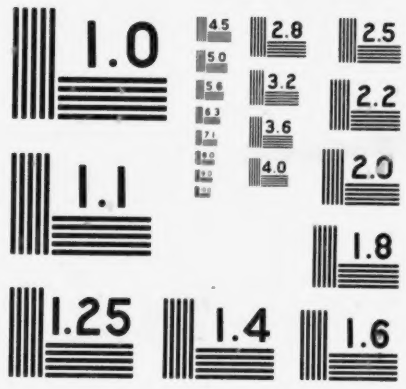

1.0
4.5
5.0
5.6
6.3
7.1
8.0
9.0
10
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.1
1.8
1.25
1.4
1.6

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963

NOM + PRES + (HAVE + EN) + (BE + ING) + (PASSIVE) + VERB + NOM + OBJECTIVE

$^{T}\underset{\Longrightarrow}{\text{passive}_1}$

$^{T}\underset{\Longrightarrow}{\text{passive}_2}$

NOM$_1$
VERB
NOM$_2$

$^{T}\underset{\Longrightarrow}{\text{terminal}}$

---

2. Choose TENSE and PASSIVE
3. Choose TENSE, (BE + ING), and PASSIVE
4. Choose TENSE, MODAL, and PASSIVE
5. Choose TENSE, (HAVE + EN) and PASSIVE

Use the same selection throughout

2.
$^{T}\underset{\Longrightarrow}{\text{passive}_{1\ \&\ 2}}$

$^{T}\underset{\Longrightarrow}{\text{terminal}}$

3.
$^{T}\underset{\Longrightarrow}{\text{passive}_{1\ \&\ 2}}$

$^{T}\underset{\Longrightarrow}{\text{terminal}}$

4.
$^{T}\underset{\Longrightarrow}{\text{passive}_{1\ \&\ 2}}$

$^{T}\underset{\Longrightarrow}{\text{terminal}}$

5.
$^{T}\underset{\Longrightarrow}{\text{passive}_{1\ \&\ 2}}$

$^{T}\underset{\Longrightarrow}{\text{terminal}}$

$$\mathrm{NOM}_1 + \mathrm{PRES} + (\mathrm{HAVE} + \mathrm{EN}) + (\mathrm{BE} + \mathrm{ING}) + (\mathrm{PASSIVE}) + \mathrm{VERB}_T + \mathrm{NOM}_2 \oplus \mathrm{OBJECTIVE}$$

$${}^{T}\underset{\Longrightarrow}{\mathrm{passive}}_1 \quad \mathrm{NOM}_1 + \mathrm{PRES} + \mathrm{HAVE} + \mathrm{EN} + \mathrm{BE} + \mathrm{ING} + \mathrm{BE} + \mathrm{EN} + \mathrm{VERB}_T + \mathrm{NOM}_2 \oplus \mathrm{OBJECTIVE}$$

$${}^{T}\underset{\Longrightarrow}{\mathrm{passive}}_2 \quad \mathrm{NOM}_2 + \mathrm{PRES} + \mathrm{HAVE} + \mathrm{EN} + \mathrm{BE} + \mathrm{ING} + \mathrm{BE} + \mathrm{EN} + \mathrm{VERB}_T + \mathrm{BY} + \mathrm{NOM}_1 \oplus \mathrm{OBJECTIVE}$$

$\mathrm{NOM}_1 \longrightarrow$ Mary
$\mathrm{VERB}_T \longrightarrow$ see
$\mathrm{NOM}_2 \longrightarrow$ he

${}^{T}\underset{\Longrightarrow}{\mathrm{terminal}}$ He has been being seen by Mary.

---

2. Choose TENSE and PASSIVE
3. Choose TENSE (BE + ING) and PASSIVE
4. Choose TENSE, MODAL and PASSIVE
5. Choose TENSE, (HAVE + EN) and PASSIVE

Use the same selection rules throughout

2.

$${}^{T}\underset{\Longrightarrow}{\mathrm{passive}}_{1\ \&\ 2} \quad \mathrm{NOM}_2 + \mathrm{PAST} + \mathrm{BE} + \mathrm{EN} + \mathrm{VERB}_T + \mathrm{BY} + \mathrm{NOM}_1 \oplus \mathrm{OBJECTIVE}$$

${}^{T}\underset{\Longrightarrow}{\mathrm{terminal}}$ He $\left\{\begin{matrix}\text{is}\\ \text{was}\end{matrix}\right\}$ seen by Mary.

3.

$${}^{T}\underset{\Longrightarrow}{\mathrm{passive}}_{1\ \&\ 2} \quad \mathrm{NOM}_2 + \mathrm{PRESENT} + \mathrm{BE} + \mathrm{ING} + \mathrm{BE} + \mathrm{EN} + \mathrm{VERB}_T + \mathrm{BY} + \mathrm{NOM}_1 \oplus \mathrm{OBJECTIVE}$$

${}^{T}\underset{\Longrightarrow}{\mathrm{terminal}}$ He is being seen by Mary.

4.

$${}^{T}\underset{\Longrightarrow}{\mathrm{passive}}^{1\ \&\ 2} \quad \mathrm{NOM}_1 + \mathrm{PRES} + \mathrm{MODAL} + \mathrm{BE} + \mathrm{EN} + \mathrm{VERB}_T + \mathrm{NOM}_2 \oplus \mathrm{OBJECTIVE}$$

$$\mathrm{NOM}_2 + \mathrm{PRESENT} + \mathrm{MODAL} + \mathrm{BE} + \mathrm{EN} + \mathrm{VERB}_T + \mathrm{BY} + \mathrm{NOM}_1 \oplus \mathrm{OBJECTIVE}$$

${}^{T}\underset{\Longrightarrow}{\mathrm{terminal}}$ He can be seen by Mary.

5.

$${}^{T}\underset{\Longrightarrow}{\mathrm{passive}}^{1\&2} \quad \mathrm{NOM}_1 + \mathrm{PAST} + \mathrm{HAVE} + \mathrm{EN} + \mathrm{BE} + \mathrm{EN} + \mathrm{VERB}_T + \mathrm{NOM}_2 + \mathrm{OBJECTIVE}$$

$$\mathrm{NOM}_2 + \mathrm{PAST} + \mathrm{HAVE} + \mathrm{EN} + \mathrm{BE} + \mathrm{EN} + \mathrm{VERB}_T + \mathrm{BY} + \mathrm{NOM}_1 \oplus \mathrm{OBJECTIVE}$$

${}^{T}\underset{\Longrightarrow}{\mathrm{terminal}}$ He had been seen by Mary.

In our discussion of the passive transformation, we spoke briefly about the "agent" and the "object" of an "action" Are "agent", "object" and "action" matters of positional or semantic contrast?

Students should not be expected to formulate these generalizations perfectly Allow as much discussion as possible and by leading questions, try to get them to see that the position has at least as much to do with the contrast between action, agent, and object as the mental perception of the semantic "meaning" of these terms

(they are not purely positional, or structural There is at least an element of the semantic in this distinction, though as far as the description of the language is concerned, the position these elements have in the deep phrase marker serves precisely to specify or characterize the NOM and the VERB, without respect to their semantic contrasts. That is, the semantic contrasts would not be describable if it were not that there is a structural, or positional contrast which corresponds perfectly and without exception to its expression in the terminal of the basic deep phrase marker and the particular transform called the passive transformation.)

Still, no matter how important the positional contrasts are in t deep phrase marker and the deep grammar of our encoding and decoding, we must not forget that as soon as we get beyond the second level of the deep phrase marker we have the possibility of many, many more semantic contrasts than we had when we were saying "Mama do" and "ga", and whatever else we said in that stage of one-and two-word sentences In our programming we must be particularly concerned with keeping the deep phrase marker completely specified and in giving it all the programs we need to come out with the right terminals But the process of language has not changed a bit really since we said "ga" We still have to have a meaning or we won't develop any positional contrasts or any phonological ones either

This introduction is concentrated quite technical. The teacher may prefer to move more inductively into the following material

What we are going to do now, therefore, is look at a few of the more basic semantic contrasts -- those which have a particular structural contrast connected with them, and those which have developed distinct phonological contrasts that correspond with the structural contrasts of the deep phrase marker

Review term PHONOLOGICAL.

The first contrast that seems to be at least partly semantic is the TENSE contrast between PAST and PRESENT. This PAST-PRESENT contrast has, in general, a distinct and easily recognizable relationship between the phonological markers that distinguish the choice and the "meaning" these phonological markers have when we use them in speech There is, though, a place where the ordinary semantic function of PAST and PRESENT is pretty much ruled out. This place is in its affixation to a MODAL

Perhaps you realized when you did the worksheet on the MODAL that there did not seem to be much relationship between PAST and "might", "could," "would", and "should" It's true, there isn't much correspondence The reasons behind the loss of PAST and PRESENT meaning is largely a matter of the kind of historical, semantic change we studied in Units 701, 801 and 901 It arose from the special and widespread use these auxiliary elements had when in the course of centuries Indo-European turned into Latin and then Teutonic and OLD English and lost many of its tenses If you know a little French, you know that there are five simple tenses in French There were also five simple tenses in Latin (A simple tense is one which has only one word in the has only one word in the verb phrase) English ended up with only two--a past and a present--one without a marked "ending" and one with an -ed or other marked "past" As English lost its marked simple tenses, it developed another system for indicating the *meanings* of these tenses, for example condition and future and possibility As the modals, for these are the elements that took over this work, became more and more the *only* means of indicating future and possibility and condition, etc , the past and present forms of the modals, which used to (and still do in German) have real past and present meanings began to have less and less of the past- and present-meaning and to indicate more and more exclusively the modal meaning.

Dictate the following or distribute Handout No 4

Because of the exception to the generalizations we are going to introduce shortly, therefore, it is well for us to look into the structures of "mode" before we go on into a deeper examination of the structures of time

I am going to give you a list of modals with some of the commones "meanings" that are associated with them Study the list carefully and then do Worksheet No 7, which I will distribute after you have had time to examine the meanings of the modals

After the students have time to study the meanings of the modals, distribute Worksheet No 7.

Unit 803
Handout No 4
Name________________________________

Table A

MODAL	**MEANING**
CAN	inherent or permanent ability or possibility
MAY	contingent possibility
MUST	inherent necessity under law, morality, logic
SHALL	program contingent upon instruction or suggestion
WILL	prediction, inherent futurity

supplementary modals

DARE	inherent moral ability of justification
NEED	necessity contingent upon instruction or suggestion
OUGHT	obligation, program of moral action

Table B

PAST + MODAL	uncertainty unreality improbability	the meaning above in A

Table C

(PAST) + MODAL + HAVE + EN	contrary to fact + the meaning in A

Unit 803
Worksheet No 7

Name______________________________

I. Distinguish between the meanings of the following pairs of sentences by writing paraphrases which incorporate the meanings given on Handout No 4 (or on the dictated lists in the students' notebooks)

1.	He might go to the game. He may go to the game.	(Ex)	The contingent possibility that he might go to the game is also improbable or uncertain, It is possible that he will go to the game (or better) "of his going to the game "
2.	He can play first base. He could play first base		
3.	He will help if possible He would help if possible.		
4.	He will have arrived by two-o'clock. He would have arrived by two o'clock		
5.	We shall have dinner. We should have dinner. We should have had dinner		

II List the paraphrases from the exercise above that include some notion of futurity -- either by way of possibility, contingency or ability.

III Match the sentences in Column A with their probable translations in Column C. You may have more than one answer per item. In Column, B, Indicate the time expressed

	Column A SENTENCES	Column B TIME (past, present or future)
______	1 Would you like to go to a movie?	______
______	2 Could you do it?	______
______	3 There should be no more fights.	______
______	4 He might come to school	______
______	5 He ought to go.	______
______	6 He may eat.	______

Column C
TRANSLATIONS

a No more fights are expected

b It is possible that he will come to school

c. It is his duty to go.

d He will probably go.

e Were you able to do it?

f. Are you free to go to the show tomorrow

g Will you be able to do it?

h "Thou shalt not have more fights

i He is allowed to eat.

j Possibly we will eat.

k Undoubtedly he is here.

l. He has to be here

m It is necessary for him to be present.

ANSWER SHEET FOR Worksheet No. 7

2. There is a possibility of his playing first base.
   The possibility of his playing first base is uncertain.

3. His help is predictable. I can predict his willingness to help.
   His helping is predictable except for the circumstances which make it improbable

4. I predict his arrival at two o'clock, but as a matter of fact it is not yet two o'clo
   The prediction of his arrival by two o'clock (which may or may not as a matter of fact have come) is uncertain.

5. We expect to have dinner according to the program we have in mind
   Our expectation of having dinner according to our program is rendered uncertain and perhaps even improbably by circumstances.
   Our program of having dinner is not only uncertain; the time for having it has gone by and as a matter of fact we haven't had it.

Part II

4b and 5c do not have elements of futurity in them.

Part III

1. f	future
2. e,g	future, present
3. a,h	future
4. b	future
5. c,d	future, present
6. i,j	present, future
7. k.l m	present, future

Go over Worksheet No 7

Generalizations The development of meanings of contingency and possibility in the modals makes time distinction generally more difficult to decide with certainty Most of the time the modals, because they have references to some aspect of possibili etc., have a shade of futurity in their meaning

ADVERB

Even though there is some difficulty in getting the time of verb phrases which include modals down to a distinction of past versu present, or even past vs present vs future, there are other mean we have at out disposal which give us a better assurance of just when - is being talked about. This other means is the ADVERB.

So far we have not discussed the ADVERB at all. We have from time to time used sentences in our worksheets which included this element, but we have not described the structure and how it affects the sentence. As you can see from the deep phrase marker on Handout No 4, there is a fairly complex division of Adverbs Here we are going to touch on only one of the main divisions -- the ADVERB of TIME. Find ADVERB on the deep phrase marker.

How many words can you add to the one we used in our Cartesian Product exercise, "yesterday".

Lists will differ

(yesterday, soon, today, tomorrow, next time, a while ago, since, immediately, now, later, meanwhile, in the morning, this week, this morning, then, when)

Let's look, for example, at "in the morning". Could you expand list like this?

(in a week, in ten days..., after the tenth, until March, Before Tuesday, during the month, etc.)

How are these ADVERBS formed?

(PREPOSITION + NOUN time)

Yes, each of these expressions is a NOUN PHRASE (abbreviate NP) Now consider "this morning." Are there other expressions like that?

(next time, the other day, the first day...., the last time, etc)

Are any of these expressions unambiguous?

(perhaps "tomorrow" "yesterday", "today", "last night")

Distribute Worksheet No 8

Let's see Here is a list and some sentences to help us decid

Unit 803
Worksheet No 8

Name__________________________________

I. Decide whether it is feasible to make a Cartesian Product using the following two sets of whether there are too many restrictions to make the Cartesian Product useful

we are going
we go
we went
we will go
we were going
we may go
we might go
we might have gone
we might have been going
we will be going

tomorrow
today
yesterday
last night
now
soon

II Try the following set with the same thing in mind

early
next time,
awhile ago
since
immediately
later
meanwhile
in the morning
this week
thereafter
sometime
then
right away
sometimes

III. List here the ADVERBS that can be used only with verbs in PAST.

IV. List here the ADVERBS that can be used only when there is an element of futurity

V. List here the expressions which indicate a stretch of time which can be viewed from either the beginning, middle, or end.

Answer Sheet for Worksheet No. 8

I. "tomorrow," "yesterday" and "last night" resist verb phrases that indicate, respectively verbs in the past or present and future.

II. "next time" and "right away" need a verb with an element of futurity
"awhile ago" needs a verb with PAST
"sometime" resists PAST without ING.

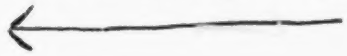
III. "yesterday"
"last night"
"awhile ago"

IV. next time
tomorrow

V. today
meanwhile
in the morning
this week
then

Go over Worksheet No 8

GENERALIZATIONS FOR WORKSHEET NO. 8 There are very few ADVERBS of TIME which are not ambiguous This is because time presents itself to us as a continuum--a stretch of moments, end to end, with a kind of existence as a line Since time seems to us to be a line which we can interrupt at a given point or consider in segments, we seem to be able to look at time from the beginning, middle, or end of a certain segment of the line Thus:



Draw on board or overhead Be careful not to get the direction confused

"Tomorrow is a succession of moments It has a beginning and an end The end coming toward us is the First moment of tomorrow The end that will be the last to go past us is the last moment of tomorrow Which is the first moment of "tomorrow" on the line I have drawn for you?

(the end with the arrow head)

Which is the last moment?

(the squared-off end)

Find in the first set on Worksheet No 8 the members that look at tomorrow from the beginning (none) From some point or during some segment in the middle

(we are going
we go
we will go
we were going
we may go
we might go)

Are there any that look at tomorrow from the end?

(No But "we will have gone tomorrow" does)

When "tomorrow" has floated past us, can we still look at the beginning, middle or end?

(Yes but now we call it "yesterday ")

Give examples wherein we look at either the beginning?

(we were going to leave yesterday)

From the end:

(we had finished yesterday)

On the whole, though, this is still somewhat ambiguous For the fact remains that days, hours, weeks, etc , present themselves to us as stretches, or segments of a line, during which actions take place The action is so to speak, stretched out along the line Expressions of time, therefore, if they are

ADVERBS, will generally be somewhat ambiguous. And most of the time they will refer to a stretch of time, a segment of the line of time that floats toward us out of the future and moves through our consciousness into the past.

SIMPLE TENSE

COMPOSITE TENSE

Sentence Time

TERMINABLE UNIT

You may have noticed, as we went through Worksheet No. 8 that we combined the ADVERBS with the earlier expansion from the Deep Phrase Marker NOM + PRED. The PRED we used, in every case, contained some kind of expansion of AUX. Sometimes the AUX expansion was affixed right into the VERB to make a simple tense. Sometimes it was expanded into a system of auxiliaries which made up a composite tense. You may also remember that TENSE is an obligatory expansion of AUX. What these observations define is a basic fact of English sentence sense. Every English sentence is expanded from NOM + PRED and includes an AUX of TENSE. A term we can use to talk about the TENSE element in English sentences is "sentence time". "Sentence time" is the necessary element of time in every expanded deep phrase marker that stands in what a grammarian named Kellog Hunt calls "terminable Units." A "terminable unit" is an expansion of the deep phrase marker which contains "sentence time" or TENSE.

Sentence time, or TENSE cannot well be represented by the arrow we have just drawn in our discussion of the ADVERB. Sentence Time seems to refer to our progress toward "tomorrow". Now since we seem to move forward toward, or into, tomorrow, the line that represents sentence time would be better drawn in the direction that we often see things moving. For example when we write, or when we read, our pen or our eyes move across the page from left to right. The line which refers to the progress we make forward into tomorrow, then, can best be drawn like this:

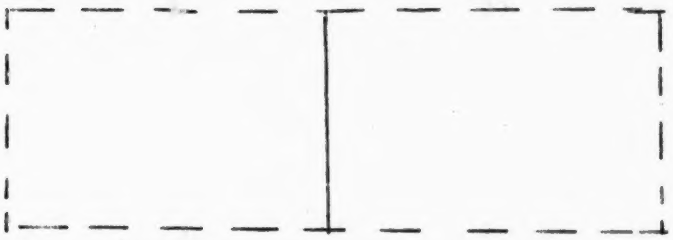
Which way does the line representing sentence time move?

(left to right)

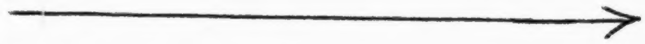
EVENT TIME

And what do you think we could call the other line? A linguist by the name ofJohn Gallup, following a French school of linguists calls that line "EVENT TIME". We have already seen that "Event time" can be looked at from the beginning, middle or end. WHat about sentence time? In some languages, I believe it can. But in English, where we have only two simple tenses, it seems likely that it cannot. Here is a diagram to show you what is meant by that statement. Let's say that the box is the whole field of our imagination and that the line down the middle represents where we are in time - somewhere between the "past" and the "future"

There is no reason to believe that this can be taught inductively, but it is possible that there is more to it than conven-

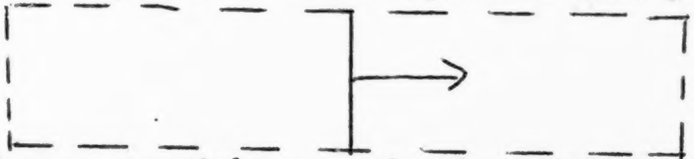


Sentence time moves in a line forward a line which we who read and speak English can draw from left to right But our language can make a difference in the way we consider this line. It seems that in English we can only look at Sentence Time from the Beginning of the event That is, from the end of the arrow where the event starts Which end is that?



(the left hand end. The one without an arrowhead)

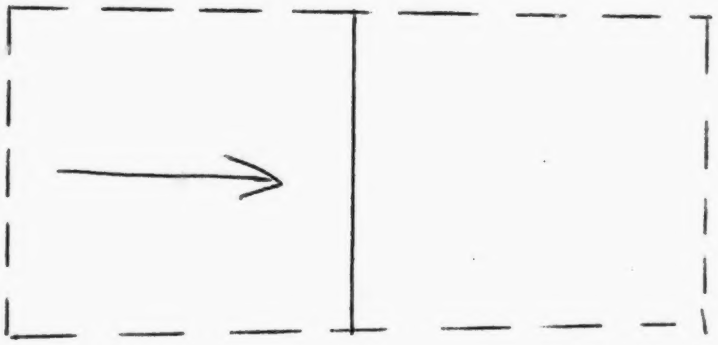
The left-hand end is right. That is, just as we see events floating towards us in event time, first moment first, so too the first moment of the event, the one that gets accomplished first, is the left end of the line The beginning of the event in sentence time is the left-hand end of the arrow. Since we are moving in the same direction as the arrow, forward the event stretches away from us. This is true of all sentence time. Let us return to our diagram to show you how this can be.



From where we are right now, in the PRESENT, we can look forward along sentence time toward the end of any event. We can look at the beginning of any event starting right now When we speak of events in sentence time we speak of them always as if we see them from the beginning. The arrow begins where the speaker ACTUALLY is, and it moves forward left to right, stretching into the future "I see the boat." "I get it." To look at an event in just this way, I have only one way to speak of it--to use the SIMPLE PRESENT TENSE. The Simple Present Tense is the one which has no expansion of AUX except PRESENT.

SIMPLE PRESENT TENSE

But I can look at the beginning of events in one other way. I can see them as if I were just beginning them (or as if I was just viewing their beginning), though, as a matter of fact the event has already moved past me and is, therefore, in what we call the PAST. In the diagram, we can draw the arrow like this:



It may be a little difficult for you to see how we can talk about things in the past without advertising the fact that they are ended. It is a little easier to see right off in the form "we were swimming," though even here, the event could be over. The important thing is that for what is being said we don't care if the event is over or if it isn't if the end of the event were in sight at the time or not. We are not interested in the end of the event-- only in the beginning. If we wish to express interest in the end of the event we can always add some other element tomake that clear. If one says "we worked like slaves" it is probably more impressive if the end of the event is not considered. To say "We worked like slaves yesterday" sounds much less grueling. As a matter of fact, then, ADVERBS are one way in which we can point to both the beginning and the end of the event. Here are some sentences for you to work with while you think about this aspect of VERBS.

Distribute Worksheet No 9

....

Go over Worksheet No 9
Leading questions will be necessary

GENERALIZATIONS FOR WORKSHEET NO. 9 There are certain verbs which indicate actions that take a period of time to accomplish, actions which it is difficult to stop once they have begun but which see themselves through to a conclusion. These verbs fit quite easily with adverbs of time that indicate completion.

Consider such verbs as the following:
- ended
- jerked
- broke
- bounced
- won
- collapsed
- stopped
- started

Can you use an ADVERB time to show conclusively that you are only looking at the beginning of these actions?

> (No. These verbs indicate events that on the whole are unanalyzable and seem to indicate that if they got started they also ended.)

The point then, is that even though the verb system operates in sentence time on the assumption that the end of the event is not important, there are ways of showing the event and even with a simple tense, and also there are verbs which refer to events that in themselves are almost unalyzable into beginning and end.

Unit 803

Worksheet No 9

Name ____________________

Rewrite the following past-tense sentences each twice. The first time use an ADVERB time to show that only the beginning of the event is important. The second time use an ADVERB time to show that the end of the event is also important.

1. Rudolf led the way

Ex Rudolf led the way immediately
Rudolf led the way yesterday.

2. Several people followed.

3 The baby cried

4. The tree fell

5 Seventeen monkeys climbed the tree

6 The girls danced.

7. Many boys laughed.

8 The worm squirmed.

9. They shouted

10. She wondered about it.

ANSWER SHEET FOR Worksheet No. 9

2. Several people followed in a little while.
last time

3. The baby cried then
a long time.

4. The tree fell immediately
a while ago.

5 Seventeen monkeys climbed the tree right away
last night

6. The girls danced late
yesterday

7. Many boys laughed during the speech
yesterday

8 The worm squirmed meanwhile
that time

9 They shouted sometimes
this morning

10. They wondered about it later
for a while

Other responses are possible. Class discussion should be encouraged.

EVENT TIME

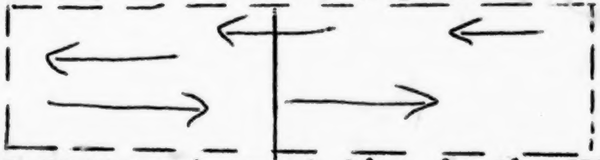
As we said above, the counterpart to sentence time, or TENSE, is "event time". Event time, we said, is opposed to sentence time in the direction we see it moving in relation to ourselves, the speakers. Sentence time moves forward in a line which it is convenient to draw from left to right. Event time moves toward us, floating out of the future, past us, into the past, in a direction it is convenient to diagram as an arrow moving from right to left.

So far, we have considered event time in relation to the ADVERB time. We have considered sentence time with regard to the two simple tenses, past tense, and present tense.

COMPOSITE TENSE

Now we are going to consider the relationship of sentence time to event time in the composite tenses, the verb phrases which consist of more than one auxiliary element in concatenation with the verb. Perhaps you recall the list of possible auxiliary strings which we formulated for that assignment after Worksheet No. 5. Of course, all of those combinations do not represent separate tenses, but recalling the shades of meaning the modals give us, you may anticipate a few more than two.

Here is our diagram again. The box represents the field of our imagination as it did before. The line down the middle represent our position in the present, somewhere between the past and the future. The left-to-right arrows represent sentence time. The right-to-left arrows represent event time.



When we represent event time in the VERB system, we use the auxiliary system to do one of three things.

1) go out into the future to meet the event.
2) catch the event as it passes and represent it as being viewed from the middle of the event.
3) look back at the end of the finished event.

Here are three verb phrases in composite tenses. Which verb phrase matches with each of the above auxiliary functions?

a. has fixed (3)
b. is fixing (2)
c. will fix (1)

That was easy! But now look at the second element of each verb phrase here. Can you see which auxiliary element was used in each?

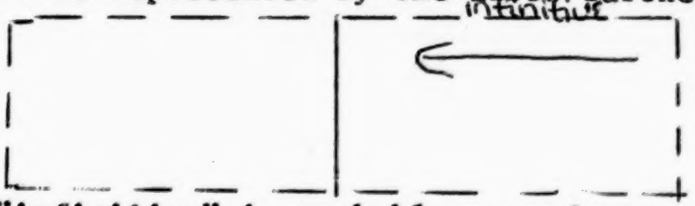
a HAVE + EN
b BE + ING
c MODAL

Yes We might parallel MODAL with the others by saying that it is MODAL + 0 It usually seems redundant to put the zero in, but in this case it might not be so foolish, for it is a sure thing that with the modal, there can be no phonologi marker added to the verb, at least on the end Are there any modals which have a phonological marker before the verb?

(ought + to
be + to
have + to
dare + to
need + to)

vocab. VERBAL
INFINITIVE

In other words we might say that C should be MODAL + to Probably the "to" is more indicative of the event time which this verb element (or verbal--since it does not have sentence time)expresses For the MODAL or any verb which takes the verbal called an INFINITIVE must, as it were, reach into the future to an event time which has not yet arrived at the PRESEN sentence time of the speaker. The infinitive is the verbal (the verbal element that expresses only event time, not sentenc time) which is represented by the arrow farthest to the right:



FINITE VERB

TERMINABLE UNIT
(2nd occurrence)

The word "infinitive" is probably a good name for this verbal too It has the prefix "in" meaning non- and the root "finite" meaning "ended in time". And the prepositional element "to" which is some times used after the MODAL (and other verbs) is the descendent from a historical accusative preposition which indicated "motion toward." If you know German, you have met this accusative of motion in another form In distinction to the infinitive is the FINITE VERB, or the verb of sentence time Since the modal always contains sentence time, the modal transforms the infinitive into a finite verb Whenever a verb phrase contains a sentence time(TENSE), in the right branch and a suitable NOM in the left branch of the deep phrase marker, and there is no WH transform (which we haven't studied yet), the is a terminable unit or, in traditional terms, a complete sente

Distribute Worksheet No 10

Now, before we go on to the next kind of event time, here is en assignment to help you understand and fix these things in your mind.

Unit 803
Worksheet No 10 Name________________________

Expand the Aux in the following so as to use the infinitive of the verb indicated in the rewrite. Then use the expanded MAIN VERB in an original terminable unit You may refer to your notebook for the list of modals.

1. AUX + VERB → (EX.) PAST + MODAL + VERB
VERB → SPIN
MODAL → (EX.) WILL
$^{T}\underset{\Longrightarrow}{\text{terminal}}$ (EX.) would spin: I didn't know this top would spin.

2. AUX + VERB →
VERB → SOAK
MODAL →
$^{T}\underset{\Longrightarrow}{\text{terminal}}$

3. AUX + VERB →
VERB → SCANDALIZE
MODAL →
$^{T}\underset{\Longrightarrow}{\text{terminal}}$

4. AUX + VERB →
VERB → TERRIFY
MODAL →
$^{T}\underset{\Longrightarrow}{\text{terminal}}$

5. AUX + VERB →
VERB → TRANSLATE
MODAL →
$^{T}\underset{\Longrightarrow}{\text{terminal}}$

6. AUX + VERB →
VERB → TRANSLATE
MODAL →
$^{T}\underset{\Longrightarrow}{\text{terminal}}$

7. AUX + VERB →
VERB → BOTTLE
MODAL →
$^{T}\underset{\Longrightarrow}{\text{terminal}}$

8. AUX + VERB →
VERB → SKATE
MODAL →
$^{T}\underset{\Longrightarrow}{\text{terminal}}$

9. AUX + VERB →
VERB → CRATE
MODAL →
$^{T}\underset{\Longrightarrow}{\text{terminal}}$

10 AUX + VERB
        VERB   DRAIN
        MODAL
   T_{terminal}

II. List all the finite verbs in the 10 sentences above Don't miss the ones you might have added when you wrote your own sentence

Answers for Worksheet No. 10

I The responses will vary, but all the given verbs must appear in the infinitive form as follows

1. spin
2. soak
3. scandalize
4. terrify
5. translate
6. win
7. bottle
8. skate
9. crate
10. drain

Be sure the expanded AUX contains either PRESENT or PAST and that the student expands MODAL with a non-terminal: may, can, will, shall, must, etc

II. *The responses will vary, but all must contain the list from part I in conjunction* with the modals chosen by the students.

Does this tell us particularly that the whole event has passed the PRESENT line?

(No Again, we are looking at the event from the beginning. The end of the event cannot be indicated by this means in sentence time e g "I was fixing the lunch when he came in " may mean "And I am still fixing it " or it may not. We don't know from the sentence. We only know that we are interested in the event as if it were in process.

EVENT TIME FROM THE MIDDLE or IN PROCESS

Distribute Worksheet No. II

Unit 803
Worksheet No II
Name________ ______________

I Expand AUX in the following to form a verb phrase that captures event time in the middle Then write a terminable unit which contains an ADVERB time. If you use MODAL, do not omit the rewrite (see Ex. 2). You may use HAVE + EN IN addition to BE + ING. Make your AUX's vary.

1 EX. AUX + VERB → PRESENT + BE + ING + VERB
VERB → JERK
^{T}terminal → was jerking The car was jerking all night

2. AUX + VERB → PAST + MODAL + BE + ING + VERB
VERB → SING
(MODAL → SHALL)
^{T}terminal

3 AUX + VERB →
VERB → CRY
(→)
^{T}terminal →

4 AUX + VERB →
VERB → SKIP
(→)
^{T}terminal →

5 AUX + VERB →
VERB → HOPE
(→)
^{T}Terminal →

6 AUX + VERB →
VERB → CONSIDER
(→)
^{T}terminal →

7 AUX + VERB →
VERB → TURN
(→)
^{T}terminal →

8 AUX + VERB →
VERB → ASTONISH
(→)
^{T}terminal →

9 AUX + VERB →
VERB → BRIDE
(→)
^{T}terminal →

10 AUX + VERB →
VERB → HAMMER
(→)
^{T}terminal

Answers for Worksheet No. II

Responses will vary   Check for:

BE + VERB + ING

rewrite of MODAL if it is included in expansion of AUX

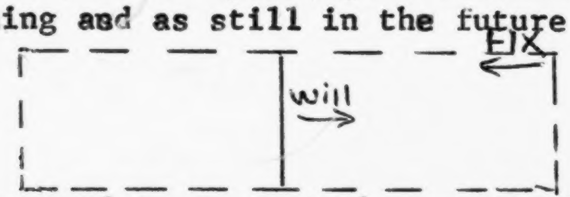
ADVERB time in original terminable unit

GENERALIZATIONS: the event FIX, then moves toward us, out of the future

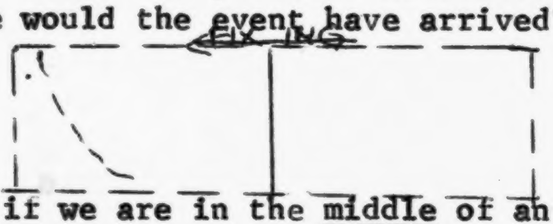
Depending on the aspect under which we see it coming, we could choose the proper AUX form to pinpoint the aspect we want We said we were going to indicate our present intention to eat lunch Which member of the AUX lists do we need?

(the MODAL "will")

That's it Choosing PRESENT and "will" from the possible MODAL, we, so to speak, go out to meet EAT We look at it from beginning and as still in the future



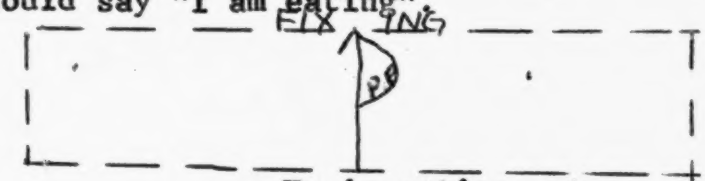
If we wanted to present the event EAT from the middle then where would the event have arrived?



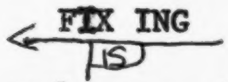
Yes, if we are in the middle of an event, part of it is still floating out of the future and part of it has already floated into the past If I want to put the middle of this event into PRESENT sentence time, which members of the AUX lists can choose?

(PRESENT + BE + ING)

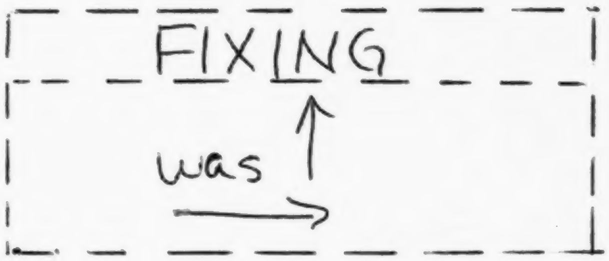
Yes, only member of BE plus its -ing marker indicates that we are looking at the event from the middle as it floats by us I could say "I am eating".



He is eating, etc



GERUND PRESENT PARTICIPLE	In each case, the event time is caught in the middle. What about PAST and this aspect of seeing the event in the middle? This verbal is called the GERUND or the PRESENT PARTICIPLE



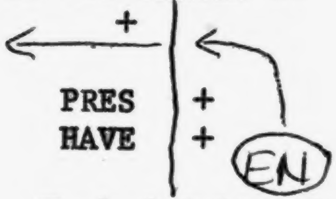
Go over Worksheet No II

PAST PARTICIPLE

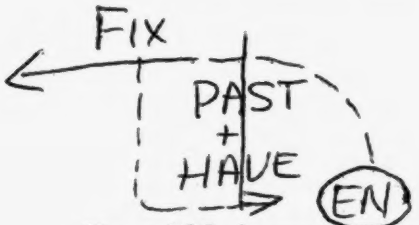
If it seems desirable to review or teach the tense names, do that here. The worksheet answers, however, merely indicate past, present, and future ended, middle or coming

The third kind is the kind of relationship which grammarians have called "perfect" While the word has lost the meaning of ended which it used to carry, it is perhaps as good a word as any The perfect or "ended" aspect of sentence time is indicated by the use of the HAVE + EN component of the AUX Hence we say

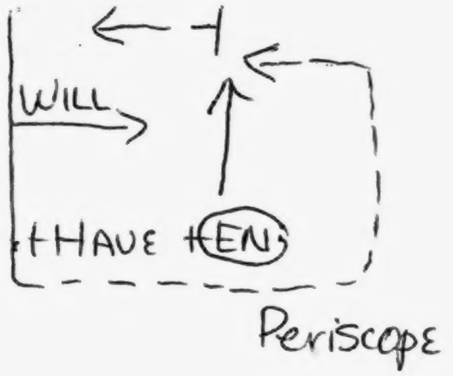
He has DRIVEN it


+
PRES
HAVE
+
+
EN

He had driven it

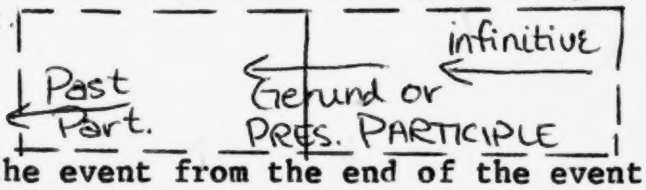

FIX
PAST
+
HAVE
EN

He will have driven it

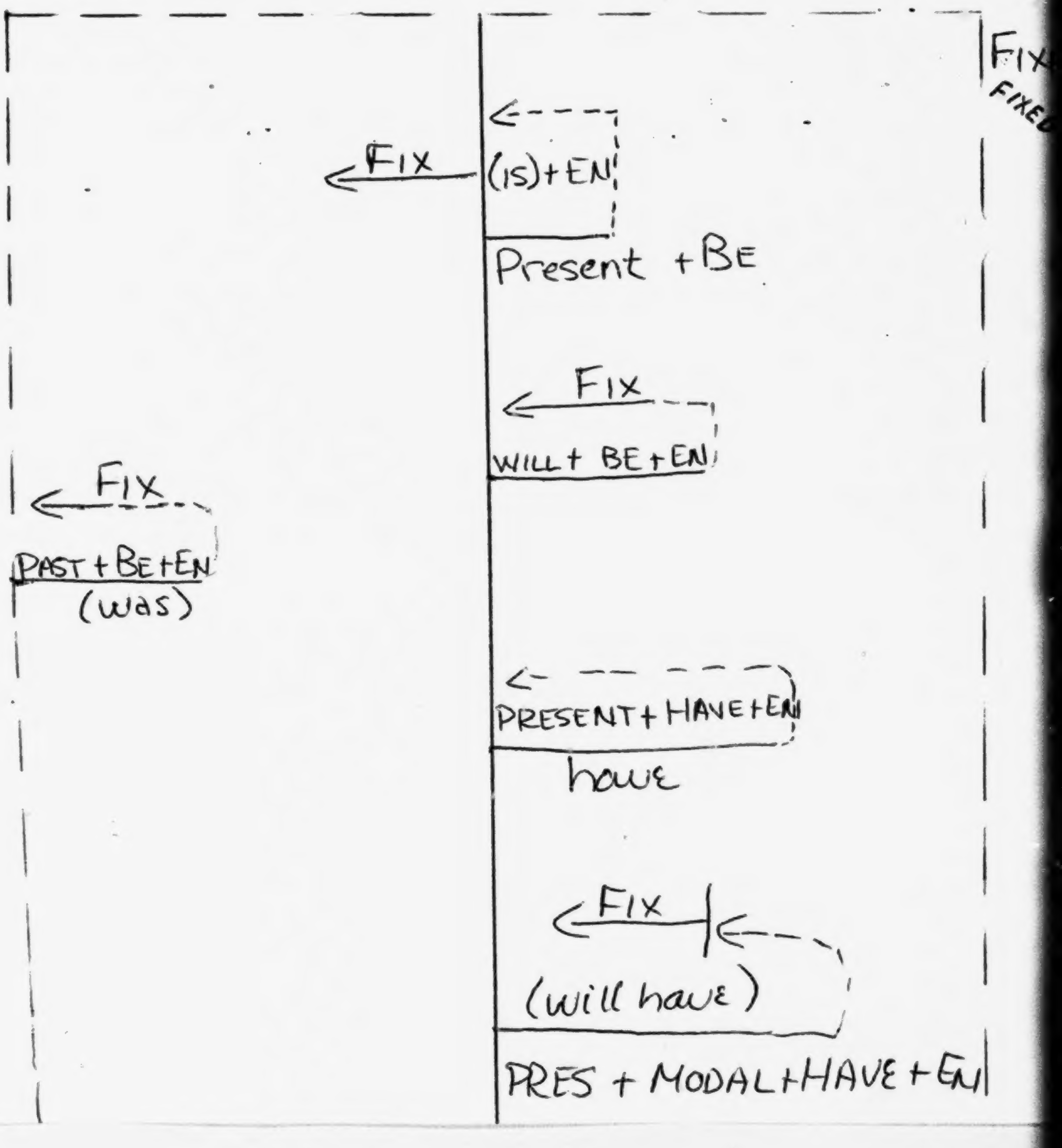

WILL
+HAVE +EN
Periscope

GENERALIZATIONS: Verbals formed by the auxiliary element BE + ING capture event time "in the middle" Neither beginning nor end of the event is important though either may be adverted to by appropriate use of ADVERB time

The third aspect of event time, represented by the right-to-left arrow at the right

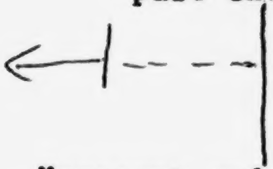

infinitive
Past
Part.
Gerund or
PRES. PARTICIPLE

is that of looking at the event from the end of the event - as finished, or completed You notice that in our imaginative field, the past participle is wholly in the PAST section of sentence time While it is true that the past participle is wholly in the past section of sentence time While it is true that the past participle, the third, or "ended" aspect of event time, is sometimes used in finite verb phrases that reach into the future, the notion of looking at the end of the event still holds When we day "John will have finished" or "the letter will have been written", we are looking at the events as if we saw the end of it completed Also, if you think back to the passive transform, you will realize that it emphasizes more than the active visin the aspect of "completed event time." Like the gerund (present participle), the past participle is sensitive to sentence time. The auxiliary (either HAVE + EN or BE + EN) captures the event "By the tail" so to speak Thus we can have

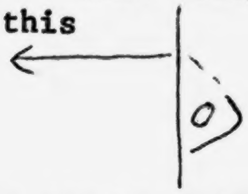

FIX
FIXED
FIX
(IS)+EN
Present +BE
FIX
WILL+ BE+EN
FIX
PAST+BE+EN
(was)
PRESENT+HAVE+EN
have
FIX
(will have)
PRES + MODAL+HAVE+EN

Optional diagrams on
"the event as ended"

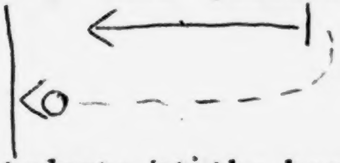
"past ended event"



"present ended event"
as if it were being ended,
like this



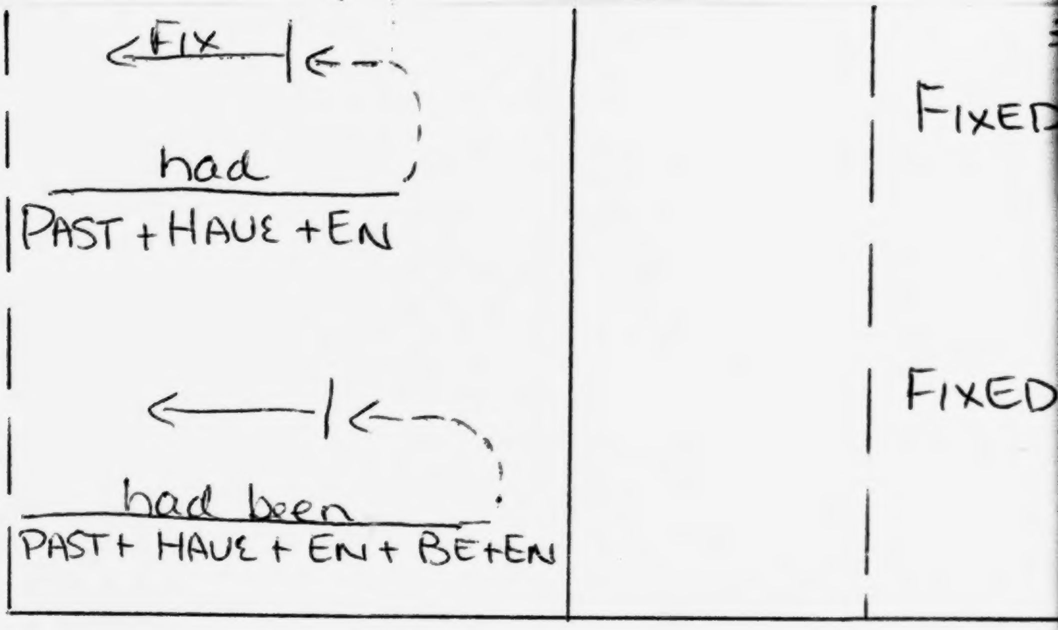
Future "to be ended" event
As if it were to be ended sometime in
the future, like this where we have
a kind of "time" periscope



Have students at the board to draw these and review diagrams to be sure they can all handle the diagram conventions

Teacher's note: Review again and again before the next section the fact that sentence time is indicated by only one AUX element - namely TENSE The other AUX elements refer to event time The fact that tense affixes onto MODAL, HAVE or BE is misleading

Teacher's Note: It may be revealing to consider the fact that nearly every strong verb (i e , nearly every irregular past participle in -en) is an intransitive or a pseudo-intransitive (a transitive whole object can be deleted) Is this "reason" why the irregular form has survived? It is needed to distinguish the verbs, N.B. hang, hanged, hanged! hang, hung, hung
Distribute Worksheet No 12



SPEAKER'S
PRESENT
(sentence time)

N.B. The past participle is the infinitive form with an EN aff
The present participle is the infinitive form with the ING affix. The affix is an AUX element

The affixation of EN, as we noted above when we did the passive transformation, is irregular in a considerable number of cases Is the affixation of ING irregular?

(No Only in spelling, where silent e is dropped, is there any irregularity whatsoever Even BE has a regular present participle)

Let's review again some aspects of the affixation of -EN Ther are two general classes of verbs which take -EN which can be subdivided into five:

(1) REGULAR: add -ed

	INFINITIVE	AFFIX	SPELLING	PHONETICS
a)	MUTE	-ed	muted	myut ad
b)	CAN	-ed	canned	kae nd
c)	FIX	-ed	fixed	fikst

(2) IRREGULAR

a)	EAT	-en	eaten	iytan
b)	SPEAK	-en	spoken	spok n

The worksheet I will give you now will review some of the things we have learned about verbals and about sentence and event time

Unit 803
Worksheet No 12 Name______________________________

I. Distinguish sentence time in the following verb phrases Put the sentence time in the blank to the left. Use PRESENT or PAST.

sentence
time_______________ 1. will be included

___________________ 2. was included

___________________ 3. had collided

___________________ 4. had been worried

___________________ 5 have convinced

II. Tell which event time is captured by the sentence time in the verb phrases below Write "ended", "in process", or "coming" in the blank to the right.

event
time_______________ 1 is threatening
___________________ 2. is to tell
___________________ 3 has become
___________________ 4. will persuade
___________________ 5 would pronounce
___________________ 6 has been revealed
___________________ 7. had praised
___________________ 8 were praising
___________________ 9. might be sneaking
___________________ 10 ought to sleep
___________________ 11. must weigh
___________________ 12 have paused

III. Write a paraphrase of each of the above verb phrases telling the semantic meaning given by sentence time, modal time (if there is one) and event time. Initial each section of the paraphrase S.T. for sentence time; E.T. for event time; M.T. for modal time

S.T. M.T. E.T.
Ex I will be included: Present prediction of the end of an inclusion now
M.T.
inherently future

Answers for Worksheet No. 12

I 1 Pres.
2. Past
3. Past
4. Past
5. Pres.

II 1 in process
2. coming
3. ended
4 coming
5. coming
6. ended
7. ended
8. in process
9. coming
10. coming
11. coming
12. ended

III 1
ST ET
2 Past, ended event of inclusion
ST ET
3. Past, ended event of collision
ST ET
4. Past, (passive), ended event of worrying
ST ET
5 Pres ended event of convincing
ST ET
1. present process of threatening
ST MT ET
2. present modal expectation of coming event of telling
ST ET
3. Past, ended event of becoming
ST MT ET
4. Present prediction of coming event persuading
MT + ST
5. Improbable coming event of pronouncing
ST ET
6. Pres (passive) ended event of revealing.
ST ET
7. Past ended event of praising

8 Past in process event of praising
MT ST ET
9 Uncertain pres. passive in process event of sneaking
ST MT ET
10 Pres Moral expectation of coming event of sleeping
ST MT ET
11. Present necessity of coming event of weighing
ST ET
12. Present ended event of pausing

Unit 803
Supplementary Worksheet 12a

I. Examine the following sentences carefully. Decide (1) whether they "sound right to you"; that is, are they in your ideolect (dialect) (2) Decide whether any of them have gone through the passive transformation Check the blanks accordingly

My idiolect   Pass Trans no

________   ____________ 1 He's gone

________   ____________ 2. It's finished.

________   ____________ 3. We were done (with the job).

________   ____________ 4. They're moved from here

________   ____________ 5. It was opened.

________   ____________ 6. The job is started

Can you add to the list of verbs used this way?

II. Write the AUX + VERB expansions for the sentence above

III. Find out what you can about verbs of motion in German and French. How did German and French develop from Latin in their system of verbs of motion? Then either report your findings to the class or write them out and give them to your teacher or a committee The committee or you might wish to formulate a transformational rewrite that will introduce BE + EN for certain verbs.

Answers for Supplementary Worksheet 12a

I. 1 No
2. No
3. No
4. Yes
5. No

responses will vary

II.

1	AUX + VERB	PRESENT + BE + EN + VERB
2.	AUX + VERB	PRESENT + BE + EN + VERB
3.	AUX + VERB	PAST + BE + EN + VERB
4.	AUX + VERB	PRESENT + BE + EN + VERB
5.	AUX + VERB	PAST + BE + EN + VERB
6	AUX + VERB	PRESENT + BE + EN + VERB

N.B Allow a non-terminal notation of the verb itself (GO) etc, but encourage the more general symbol VERB If anyone suggests calling the VERB a special type, such as VERB motion, encourage this show of a grasp of the system.

III. Verbs of motion in these languages are conjugated with "to be" instead of "to have"

QUIZ ON VERB TENSE NAMES

Write the rules for the following tenses

PAST TENSE →

FUTURE PERFECT TENSE →

PRESENT TENSE →

PAST PERFECT TENSE →

FUTURE TENSE →

PRESENT PERFECT TENSE →

PRESENT PROGRESSIVE TENSE →

PAST PROGRESSIVE TENSE-PASSIVE VOICE →

FUTURE PERFECT PROGRESSIVE TENSE →

FUTURE PERFECT PROGRESSIVE TENSE PASSIVE VOICE →

PRESENT TENSE PASSIVE VOICE →

FUTURE TENSE PASSIVE VOICE →

PAST PERFECT TENSE PASSIVE VOICE →

Conjugate the following verbs by following the rules. VERB → speak: NOM → PRONOUN

NOM $\oplus$ SING$_1$ + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$

NOM $\oplus$ SING$_2$ + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$

NOM $\oplus$ SING$_3$ + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$

NOM $\oplus$ PLURAL$_1$ + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$

NOM $\oplus$ PLURAL$_2$ + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$

NOM $\oplus$ PLURAL$_3$ + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$

ANSWERS for Quiz on Verb Tense Names

Write the rules for the following tenses

PAST TENSE ⟶ PAST + VERB

FUTURE PERFECT TENSE ⟶ PRESENT + $\begin{matrix}\text{WILL}\\ \text{SHALL}\end{matrix}$ + HAVE + EN + VERB

PRESENT TENSE ⟶ PRESENT + VERB

PAST PERFECT TENSE ⟶ PAST + HAVE + EN + VERB

FUTURE TENSE ⟶ PRESENT + $\begin{matrix}\text{WILL}\\ \text{SHALL}\end{matrix}$ + VERB

PRESENT PROGRESSIVE TENSE ⟶ PRESENT + BE + ING + VERB

PAST PROGRESSIVE TENSE, PASSIVE VOICE ⟶ PAST + BE + ING + BE + EN + VERB_t

FUTURE PERFECT PROGRESSIVE TENSE ⟶ PRESENT + HAVE + EN + BE + ING + VERB

FUTURE PERFECT PROGRESSIVE TENSE PASSIVE VOICE ⟶ PRESENT + $\begin{matrix}\text{SHALL}\\ \text{WILL}\end{matrix}$ + HAVE + EN + BE + ING

PRESENT TENSE PASSIVE VOICE ⟶ PRESENT + BE + EN + VERB

FUTURE TENSE PASSIVE VOICE ⟶ PRESENT + $\begin{matrix}\text{WILL}\\ \text{SHALL}\end{matrix}$ + BE + EN + VERB_t

PAST PERFECT TENSE PASSIVE VOICE ⟶ PAST + HAVE + EN + BE + EN + VERB_t

Conjugate the following verbs by following the rules. VERB → speak: NOM → PRONOUN

NOM ⊕ SING_1 + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$ I am speaking

NOM ⊕ SING_2 + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$ you are speaking

NOM ⊕ SING_3 + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$ he is speaking

NOM ⊕ PLURAL_1 + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$ we are speaking

NOM ⊕ PLURAL_2 + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$ you are speaking

NOM ⊕ PLURAL_3 + PRESENT PERFECT PROGRESSIVE $\underset{\Longrightarrow}{{}^{T}\text{terminal}}$ they are speaking

Follow the MODEL:

Ex. Tom says he will go

$\xrightarrow{\text{Rewrite}}$ N_{proper} + PRESENT + VERB + N_p + PRESENT + $MODAL_w$ + VERB

$\xRightarrow{T_{\text{past tense}}}$ N_{proper} + PAST + VERB + N_p + PAST + $MODAL_w$ + VERB

$\xRightarrow{T_{\text{terminal}}}$ Tom said he would go

L. Harriet thinks she may major in chemistry

$\xrightarrow{\text{put in rewrite}}$

$\xRightarrow{T_{\text{past tense}}}$

$\xRightarrow{T_{\text{terminal}}}$

---

2 $\underbrace{\text{The masons}}_{X}$ hope they can complete $\underbrace{\text{their work in two days}}_{Y}$

Rewrite

$\xRightarrow{T_{\text{past tense}}}$

$\xRightarrow{T_{\text{terminal}}}$

---

3. $\underbrace{\text{The teacher}}_{X}$ says $\underbrace{\text{we ought to attend the lecture}}_{Y}$

Rewrite

$\xRightarrow{T_{\text{past tense}}}$

$\xRightarrow{T_{\text{terminal}}}$

---

4 $\underbrace{\text{If Jerry}}_{X}$ has an opinion, he will $\underbrace{\text{express it.}}_{Y}$

Rewrite

$\xRightarrow{T_{\text{past tense}}}$

$\xRightarrow{T_{\text{terminal}}}$

ANSWERS

1 Harriet thinks she may major in chemistry.

$\underrightarrow{\text{Rewrite}}$ $N_p \oplus SING_3 + PRES + VERB + N_p \oplus SING_3 + PRES + MODAL + VERB + PREP + N$

${}^{T}\underset{\Longrightarrow}{\text{past tense}}$ $N_p \oplus SING_3 + PAST + VERB + N_p \oplus SING_3 + PAST + MODAL + VERB + PREP + N \oplus SING_3$

${}^{T}\underset{\Longrightarrow}{\text{terminal}}$ Harriet thought she might major in chemistry

---

2. The $\underbrace{\text{Masons}}_{X}$ hope they can complete $\underbrace{\text{their work in two days}}_{Y}$

$\underrightarrow{\text{Rewrite}}$ $X + PRESENT + VERB + N_p + PLUR + PRES + MODAL + VERB + Y$

${}^{T}\underset{\Longrightarrow}{\text{past tense}}$ $X + PAST + VERB + N_p + PLUR + PAST + MODAL + VERB + Y$

${}^{T}\underset{\Longrightarrow}{\text{terminal}}$ The Masons hoped they could complete their work in two days

---

3. $\underbrace{\text{The teacher}}_{X}$ says $\underbrace{\text{we ought to attend the lecture.}}_{Y}$

$\underrightarrow{\text{Rewrite}}$ $X + PRES + VERB + Y$

${}^{T*}\underset{\Longrightarrow}{\text{past tense}}$ $X + PAST + VERB + Y$

${}^{T}\underset{\Longrightarrow}{\text{terminal}}$ The teacher said we ought to attend the lecture

---

4. $\underbrace{\text{If Jerry}}_{X}$ has an opinoin, he will express $\underbrace{\text{it}}_{Y}$

$\underrightarrow{\text{Rewrite}}$ $X + PRES + VERB + DET + N + N_p \oplus SING + PRES + MODAL + VERB + Y$

${}^{T}\underset{\Longrightarrow}{\text{past tense}}$ $X + PAST + VERB + DET + N + N_p \oplus SING + PAST + MODAL + VERB + Y$

${}^{T}\underset{\Longrightarrow}{\text{terminal}}$ If Jerry had an opinion, he would express it

The "There" Transformation

$$\text{(DET)} + \text{N} + \text{AUX} + \text{BE} + \text{ADV} \xrightarrow{T_{there}} \text{THERE} + \underline{\text{AUX} + \text{BE}} + \underline{\text{(DET)} + \text{N}} + \text{(ADV)}$$

Examine this rule as it operates in the place-holder:

$$\text{X} + \underbrace{\text{(DET)} + \text{N}}_{X_1} + \underbrace{\text{AUX} + \text{BE}}_{X_2} + \underbrace{\text{ADV}}_{X_3} + \text{Y} \xrightarrow{T_{there}} \text{X} + \text{THERE} + X_2 + X_1 + (X_3)$$

$$\text{X} + \underbrace{\text{(DET)} + \text{N}}_{X_1} + \underbrace{\text{TENSE} + \text{BE}}_{X_2} + \underbrace{\text{ING} + \text{VERB}_1}_{X_3} + \underbrace{\text{ADV}}_{X_4} + \text{Y} \xrightarrow{T_{there}} \text{THERE} +$$

$$\text{X} + \underbrace{\text{TENSE} + \text{BE}}_{X_2} + \underbrace{\text{(DET)}}_{X_1} + \text{N} + \underbrace{\text{ING} + \text{VERB}}_{X_3} + \underbrace{\text{(ADV)}}_{X_4} + \text{Y}$$

$$\text{X} + \underbrace{\text{(DET)} + \text{N} \oplus \text{SING}_3}_{X_1} + \underbrace{\text{TENSE} + \text{(HAVE} + \text{EN)} + \text{BE}}_{X_2} + \underbrace{\text{ING} + \text{VERB}_1}_{X_3}$$

$$\underbrace{\text{N} + \text{(ADV)}}_{X_4 + X_5} \xrightarrow{T_{there}} \text{X} + \text{THERE} + \widetilde{X_2} + \widetilde{X_1} + \widetilde{X_3} + \widetilde{X_4}$$

$$\overbrace{+ X_5 + \text{Y}}$$

Add THere; permute NOM_1 and $\left\{\begin{array}{l}\text{AUX} + \text{BE} \\ \text{TENSE} + \text{BE if} + \text{ING} \\ \qquad + \text{VERB}_1 \text{ or Verb}\end{array}\right.$

WORKSHEET 12a

Do $\xrightarrow{T_{there}}$ on the following sentences (some won't work) Give the rules for each sentence according to the model

Example: A salesman is at the door

$$X + \underbrace{\text{DET} + \text{N} \oplus \text{SING}_3}_{X_1} + \underbrace{\text{PRES} + \text{BE}}_{X_2} + \underbrace{\text{ADV}_{place}}_{X_3} + Y \xrightarrow{T_{there}} \text{There} + X_2 + X_1 + X_3 + Y$$

$\xrightarrow{T_{terminal}}$ There is a salesman at the door.

---

1 They were waiting patiently $\xrightarrow{T_{there}}$

$\xrightarrow{T_{terminal}}$

---

2. Several Indians were on the hillside. $\xrightarrow{T_{there}}$

$\xrightarrow{T_{terminal}}$

---

3. Some pioneers were building villages. $\xrightarrow{T_{there}}$

$\xrightarrow{T_{terminal}}$

Do these without rewrites. Write BLOCK if the sentence won't transform

4. A few traders were at Fort Union. $\xrightarrow{T_{there}}$ ____________________

5. Three flatboats were upriver. $\xrightarrow{T_{there}}$ ____________________

6. Hunters were roaming in the open country. $\xrightarrow{T_{there}}$ ____________________

7. The party went ahead. $\xrightarrow{T_{there}}$ ____________________

8. Many people were moving West. $\xrightarrow{T_{there}}$ ____________________

37K

ANSWERS for Worksheet 12a

1. They were waiting patiently.

NOM + TENSE + BE + V + ING + ADV
$X + X_1 + X_2 + X_3 + X_4$

T_{there} $\text{There} + X_2 + X_1 + X_3 + X_4 \quad Y$

T_{terminal} There were they patiently waiting

---

2. Several Indians were on the hillside.

DET + NOM + TENSE + BE + ADV
$X + X_1 + X_2 + X_3 + Y$

T_{there} $X + \text{There} + X_2 + X_1 + X_3 + Y$

T_{terminal} There were several Indians on the hillside

---

3. Some pioneers were building villages

DET + NOM + TENSE + BE + V + ING + NOM
$X + X_1 + X_2 + X_3 + X_4 + Y$

T_{there} $X + \text{There} + X_2 + X_1 + X_3 + X_4 + Y$

T_{terminal} There were some pioneers building villages

---

4. There were a few traders at Fort Union

5. There were three flatboats upriver

6. There were hunters roaming in the open country

7. BLOCK

8. There were many people moving west

RECAPITULATION

GENERALIZATIONS: There are 2 aspects of sentence time - PAST PRESENT, several varied shades of modal time in MODALS - POSSIBL IMPROBABLE, FUTURE, PERMISSIBLE, ETC: three aspects of event time in verbals - coming (seen from beginning); recurring (seen from middle); ended, past, or seen as if ended; past (seen from end). The third verbal (past participle) is often irregular

During the past lessons, we have been concerned with showing the relationship between aspects of event time and sentence time As grammarians we have tried to remain conscious of the three basic kinds of processes which make language perceptible - the structural (which sets up positional contrasts), the semantic (which sets up relationships between the position and the meanings in the real world), and the phonological (which combines both the structural and semantic distinctions and translates them into pronounceable sounds We have shown, for example, how PRED can be rewritten as MAIN VERB + (ADV) time· how MAIN VERB is rewritten as AUX + VERB, etc Then how from our perception of the reality or wish to express, we choose PAST or PRESENT and the various aspects of event time. And finally how the forms that signed these choices and affixed onto the non-terminal "events" to indicate what the PRED says of the subject in "sentence time".

DELETE

Once we understand how sentence time, or TENSE, as the absolute necessity of terminable units, or punctuate-able sentences, then we are ready to see why there are also ways of taking out, or deleting sentence time. For no matter how important complete or terminable, sentences are, they are not enough We don't want to; we can't, express everything we want to say in basic direct expansions from the deep phrase marker We need non-terminable units, and the more we have to say, the more we need them.

NON-TERMINABLE UNIT

By expansion, however, terminable units are all we'll get. If we want non'terminable units we will have to make them by transformation This is true at least in the transformational system If it's true in the development of our own language, the conclusion is that you have to know more to write incomplete sentences than to write complete sentences At least it's food for thought while we look at some ways to delete and then to cancel sentence time

First, delete In a general way, the deletion of sentence time means the removal of auxiliary units to leave the verbal Which three verbals would we be able to leave?

(infinitive, gerund, past participle)

If we deleted sentence time from this PRED, what would we have? "He turned on the gas."?

(the infinitive, "turn".)

Try out "turn" in this sentence.

(Doesn't sound right)

Good While some of you might make an error in spelling and leave off the -s of the present in "He turns of the gas", you wouldn't say this in speech So, you see, you have to know more to make a non-terminable unit than a terminable unit

Since we have already discussed event time in the future - to past order, we will take the verbals in the same way here, starting with the infinitive: to remove sentence time so as to leave on infinitive, one deletes AUX, (both TENSE and MODAL and replaces AUX, with the particle "to" Who could write this transformation?

$(AUX_1) + (AUX_2) + VERB$

$X + X_1 + X_2 + X_3 + Y + INFINITIVE$

$X + to + X_2 + X_3 + Y$ Remove P-H

$to + (AUX_2) + VERB$

Give some examples in terminals:

(might have been raised	
to have been raised	
had been opened	to be opened
has scared	to have scared
may stretch	to stretch
mows	to mow)

There are three uses for the verbals formed in this manner: they can be used 1) as subjects of certain verbs, 2) as objects of certain verbs, and 3) as the "purpose" infinitive Each of these uses requires its own special transform.

BSTRACT NOUN

First, all these verbals are shifted in to the place held by a certain kind of NOM Now the NOM is the business of Unit 805, and we are not going to go into it here but there is at least one main division in NOM - abstract nouns and Concrete nouns Yo remember this distinction, anyway, from Unit 702 Name some abstract nouns

(thing, situation, action fact)

Now you know that semantically, abstract nouns are superordinates and concrete nouns are subordinates This knowledge should help you understand how the rewrite works that describes how we use the infinitive verbal Let's say you have a sentence containing an abstract noun, such as: "I know the fact," or "the action is strange." Neither of these very grammatical sentences say much They are too abstract They are so abstract there just aren't very many of them Name as many as you can

(The situation is good.
They like the situation
They intend the action.
etc.)

Which are the abstract nouns?

(fact, situation, etc.)

Na = ABSTRACT NOUN

In case this abstract noun were "action", or some Na like that and there was a more concrete sentence which named an action such as "John left the book at school," the abstract noun could be shifted out of its sentence and the action shifted in. This is the first rewrite you will have had which involves two sets of symbols, so look sharp: First we describe the sentence containing the abstract noun, then the more concrete one below it.

DET + Na + MAIN VERB

NOM + AUX_1 + AUX_2 + VERB + ADV

Transformation Infinitival Subject

These transformations are always presented in the place holder. If the class seems to be able to see the changes in the sentences this convention can be skipped and the transformation done in terms of deep phrase marker symbols. On the whole though it is probably better to use the same procedure throughout

First we'll do this in the place holder. Since we have two sentences, we do not need the context X - Y

$$Z1 + Z2 + (Z_3) + Z_4 + (Z5) \xRightarrow{T_{inf.\ subj.}}$$

Then the transformation arrow and its name - Transformation Infinitive Subject the transformation puts a "for" in front of the second (2) string, takes out AUX_1 (Z_2) replaces it with "to" and puts the whole Z string or insert sentence in the place of $X_1 + X_2$, the abstract NP of the X string or matrix sentence, the resulting rewrite is:

$$for + Z1 + to + (Z_3) + Z_4 + (Z_5) + X_3$$

Removed from the place holder, this is:

for + NOM + to + (AUX_2) + VERB + ADV + MAIN VERB.

INSERT SENTENCE
(Z - string)

MATRIX SENTENCE
(X - string)

Restrictions on vocabulary for the infinitival subject transformation are:

X_3...............................MAIN VERB AUX + V cap / Vastnish

Z_3...............................Aux_2 HAVE + EN

Thus we can get "For John to leave the book at school was good" Or, if Z_3 was expanded and we had "John has left the book at school," we would get the result "for John to have left the book at school was good."

Notice because you delted Tense from the AUX_1 that that "has left"

and "had left" will both produce "to have left"
What would happen in the case of BE + ING.

(We rewrote AUX_2 as HAVE + EN The infinitival transformation does not work on verbs when AUX_2 includes BE + ING.)

In case it did not seem necessaay, it is possible to do a second deletion on the NOM of the Z-string or insert sentence What would that leave in the practive sentence?

("To leave the book in school was good" or
"To have left the book in school was good".)

Distribute Worksheet No 13

Unit 803
Worksheet No 13 Name ____________________

I Perform transformation Infinitival Subject on the following strings. Check the blank at the right when you have performed each missing operation.

(Ex) 1

$$\left.\begin{array}{l}\text{DET} + \text{Na} + \text{MAIN VERB}\\ \text{NOM} + \text{AUX}_1 + (\text{AUX}_2) + \text{VERB} + \text{ADV}\end{array}\right\} \rightarrow \left.\begin{array}{l}X_1 + X_2 + X_3\\ Z_1 + Z_2 + Z_3 + Z_4 + Z_5\end{array}\right\}$$

1. ____________

$^{T}\underset{\Longrightarrow}{\text{infin sub}}$ for + Z_1 + to + Z_3 + Z_4 + Z_5 + X_3 ____________

Na → SITUATION
MAIN VERB → PAST + BE + STRANGE
AUX_2 → HAVE + EN
NOM → JOHN
VERB → WRITE
ADV → WELL

$^{T}\underset{\Longrightarrow}{\text{terminal}}$ For John to have written was strange

____

2

$$\left.\begin{array}{l}\text{DET} + \text{Na} + \text{MAIN VERB}\\ \text{NOM} + \text{AUX}_1 + (\text{AUX}_2) + \text{VERB} + (\text{ADV})\end{array}\right\} \rightarrow \left.\begin{array}{l}X_1 + X_2 + X_3\\ Z_1 + Z_2 + Z_3 + Z_4 + Z_5\end{array}\right\}$$

2 ____________

$^{T}\underset{\Longrightarrow}{\text{inf sub}}$ For + Z_1 + to + (Z_3) + Z_4 + Z_5 + X_3 ____________

Na → ACTION
MAIN VERB → PAST + SOUND + IMPOSSIBLE
NOM → MISS FREDERICK
VERB → BREAK + THE RECORD

$^{T}\underset{\Longrightarrow}{\text{terminal}}$ ____________

3

$$\left.\begin{array}{l}\text{DET} + \text{Na} + \text{MAIN VERB}\\ \text{NOM} + \text{AUX}_1 + (\text{AUX}_2) + \text{VERB} + (\text{ADV})\end{array}\right\} \rightarrow$$

3 ____________

____

$^{T}\underset{\Longrightarrow}{\text{inf sub}}$

Na → ACTION
MAIN VERB → PRESENT + SEEM + GOOD
NOM → THE INSTRUCTOR
VERB → GIVE + A LECTURE
ADV → EXTERMPORANEOUSLY

$^{T}\underset{\Longrightarrow}{\text{terminal}}$

4.

$$\left.\begin{array}{l}\text{DET} + \text{Na} + \text{MAIN VERB}\\ \text{NOM} + \text{AUX} + (\text{AUX}) + \text{VERB} + (\text{ADV})\end{array}\right\} \rightarrow$$

4. ____________

____

$^{T}\underset{\Longrightarrow}{\text{infin Subj}}$

Na → ACTION
MAIN VERB → (PAST + WILL + HAVE + EN) + BE + IMPORTANT
NOM → THE WORKMEN
AUX_2 → HAVE + EN
VERB → DIG + BASEMEN
ADV → QUICKLY

Unit 803
Worksheet No 13 (con't) Name________________________________

$\xRightarrow{^{T}\text{terminal}}$

II List below the terminals from Part I Then perform the deletion of the for + NOM in your head and write the new terminal after the original one

(EX) 1 For John to have written is strange $\xRightarrow{^{T}\text{NOM deletion}}$ To have written is strange

2.

3.

4 .

ANSWERS for Worksheet No. 13

	Part I		Part II
1			
2.	For Miss Frederick to break the record sounded impossible.	^{T}NOM deleted	To break the record sounds impossible
3.	For the instructor to give a lecture extemporaneously seems good	^{T}NOM deleted	To give a lecture extemporaneously seems good
4	For the workmen to have dug a basement quickly would have been important.	^{T}NOM deleted	To have dug a basement quickly would have been important

Go over Worksheet No 13

GENERALIZATIONS: It seems to be necessary to have PAST in the insert sentence if $AUX_2 \longrightarrow HAVE + EN$ This is more certain when NOM of the insert sentence is deleted than when it is retained. The restrictions on the MAIN VERB of the matrix sentence are very strict Only $\left\{\begin{matrix}\text{vise}\\ \text{copulative}\end{matrix}\right\}$ + ADJECTIVE are acceptable

The second use for the infinitival phrase is that of the object of certain verbs; that is, the infinitival phrase may be positionsed to the right of VERB in the base phrase marker In this transformation, the insert sentence will have no AUX at all after this transformation

There is a matrix sentence of the same type as in the Infinitival Subject transformation:

$$\text{NOM} + \text{AUX} + \underset{\begin{matrix}\text{hate}\\ \text{arrange + for}\end{matrix}}{\text{VERB}} \qquad + \text{Na} + \text{Y}$$

NOTICE that here the abstract noun comes after a certain vocabulary of VERB The selection here is as follows.

$$\text{VERB}_{\text{hate}} \longrightarrow \left\{\begin{matrix}\text{hate}\\ \text{mind}\\ \text{say}\\ \text{intend}\end{matrix}\right\} \text{etc}$$

$$\text{VERB}_{\text{arrange + for}} \longrightarrow \left\{\begin{matrix}\text{pay}\\ \text{ask}\\ \text{plead}\\ \text{beg}\\ \text{appeal}\\ \text{pray}\\ \text{clamor}\\ \text{beckon}\\ \text{call}\\ \text{wave}\end{matrix}\right\} \text{etc.}$$

Y stands for any further context.

The insert sentence contains only TENSE from all the possible AUX elements:

$$\text{NOM}_1 + \text{TENSE} + \text{MAIN VERB}$$

The insert sentence is then written below the matrix sentence thus:

$$\text{NOM} + \text{AUX} + \text{VERB}_{\text{A}} + \text{for} + \text{Na} + \text{Y}$$

$$\xrightarrow{\text{put into the place holder}} \left.\begin{matrix} X_1 + X_2 + X_3 + X_4 + Y \\ Z1 + Z_2 + Z_3 \end{matrix}\right\}$$

$\xRightarrow{{}^{T}\text{infinitival verbal object}}$

$X_1 + X_2 + X_3 + Z$ OR $+ Z_1 +$ to $+ Z_3 + Y$

$\xrightarrow{\text{Remove place holder}}$ NOM + AUX + V_A + for ‡ NOM + to + MAIN VERB + Y

Rewrites for the vocabulary could be:

NOM → I
AUX → PRES
VERB_H → INTEND
N_a → ACTION
Y → WHEN THE PLAY IS OVER

NOM → BILL
MAIN VERB → COME

$\xRightarrow{{}^{T}\text{terminal}}$ I intend for Bill to come tonight

The deletion of "for" is optional:

I intend Bill to come tonight

one
In the case of VERB_A + for the deletion of "for" is obligatory

A second type of verbal complement looks much like this, and in fact, the rewrites given above are a superordinate class of the rewrites, for ordinary transitive verbs There is a matrix sentence of the type "I force + COMPLEMENT + him " The insert sentence is reduced to an infinitival phrase. The rewrites look like this:

$$\left.\begin{array}{l}\text{NOM} + \text{VERB}, + \text{COMPLEMENT} + \text{NOM}_{\text{objective}}\\[1ex] \text{NOM} + \text{AUX} + \text{VERB}\end{array}\right\}$$

$\xrightarrow{\text{Inserting into place holder}}$ $\left.\begin{array}{l}X_1 + X_2 + X_3 + X_4\\ Z_1 + Z_2 + Z_3\end{array}\right\}$

$\xRightarrow{{}^{T}\text{infinitival complement}}$ $X_1 + X_2 + X_4 +$ to $+ Z_3$

What elements from the matrix sentence have been deleted?

(X_3 -- COMPLEMENT)

What replaces COMPLEMENT?

(to + Z_3)

What is deleted from the insert sentence?

($Z_1 + Z_2$ -- NOM + AUX)

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Unit 803
Worksheet No. 14 Name______________________________

I. Read the following sentences carefully. Then write the matrix sentence and the insert sentence from which they were each **derived.**

1 INFINITIVAL VERBAL OBJECT SENTENCE: I expected Jim to make the table.
Ex. MATRIX SENTENCE: I expected the action.
Ex. INSERT SENTENCE: Jim made the table.

2. INFINITIVAL COMPLEMENT SENTENCE: I made Mary clean the house.
Ex MATRIX SENTENCE: I made + COMPLEMENT + Mary
Ex. INSERT SENTENCE: Mary cleaned the house.

3. INFINITIVAL VERBAL COMPLEMENT SENTENCE: I told her to leave.
MATRIX SENTENCE:
INSERT SENTENCE:

4. INFINITIVAL VERBAL OBJECT SENTENCE: I paused for the child to catch up with me
MATRIX SENTENCE:
INSERT SENTENCE:

5. INFINITIVAL VERBAL OBJECT SENTENCE: I planned for the tour to end at Beaupre.
MATRIX SENTENCE:
INSERT SENTENCE:

6. INFINITIVAL COMPLEMENT SENTENCE: The general liked to make the soldiers shiver in their boots.
MATRIX SENTENCE:
INSERT SENTENCE:

7. INFINITIVAL COMPLEMENT SENTENCE: The contractors expected the electricians to strike.
MATRIX SENTENCE:
INSERT SENTENCE:

II. List below the terminals which have been expanded from "to + VERB" in the sentences above.

1. _______________ 2. _______________ 3. _______________ 4. _______________

5. _______________ 6. _______________ 7. _______________

____

ANSWERS TO Worksheet No 14

3. I told + COMPLEMENT + her.
   She left

4. I paused for + COMPLEMENT + the child.
   The child caught up with me.

5. I planned for something.
   The tour ended at Beaupre.

6. The general likes + COMPLEMENT + the soldiers.
   The soldiers shivered in their boots.

7. The contractors expected + COMPLEMENT + the electricians.
   The electricians struck.

II.
1. to make
2. to clean
3. to lean
4. to catch up
5. to end
6. to make   to shiver
7. to strike

Unit 803
Worksheet No 14a   Name ______________________________

I Perform the necessary transformations mentally and write the terminal sentence that would result from the following matrix and insert or constituent sentences.

1. MATRIX: I paid for the action.
   INSERT: The plumber fixed the sink.
   EX. I paid for the plumber to fix the sink.

2. MATRIX: I paid for the thing.
   INSERT: The motor drives the pump.

3. MATRIX: I arranged for the action.
   INSERT: The chauffeur met my fiancee.

4. MATRIX: The carpenter found the thing.
   INSERT: The money took care of the bill.

5. MATRIX: The carpenter found the thing.
   INSERT: The scissors cut the tin.

6. MATRIX: The maid got a thing.
   INSERT: The candle lighted the dark room.

7. MATRIX: The philanthropist looked for a person.
   INSERT: The bum ate the lunch.

8. MATRIX: We stopped the car for a purpose.
   INSERT: We ate lunch. (N.B. delete NOM.)

9. MATRIX: He took the pill for a purpose.
   INSERT: The pill eased the pain.

MATRIX: She snatched the toy for a purpose.
INSERT: She made the baby cry. (Note, delete NOM)

II. List the Infinitival Purpose Adverbials from the above terminal sentences

a). ____________________
b) ____________________
c). ____________________

III. Label the following sentences according to the three uses of infinitival phrases:

____________________1. He took a pill to ease the pain.
____________________2. She snatched the baby to make him cry.
____________________3. They punished the boy to make him behave.
____________________4. To complete the project was necessary.
____________________5. We stopped the car to fix the tire.
____________________6. The orchestra began to play "The Rite of Spring."
____________________7. He tried to pull the car out of a roll on the curve.
____________________8. Santiage tried hard to catch the marlin.

Unit 803
Answers for Worksheet No 14.

2 I paid for the motor to drive the pump.
3 I arranged for the chauffeur to meet my fiancee.
4. The chauffeur asked for the money to take care of the bill.
5. The carpenter found the scissors to cut the tin.
6. The maid got a candle to light the dark room.
7. The philanthropist looked for a bum to eat the lunch.
8. We stopped the car to eat lunch.
9. We took a pill to ease the pain.
10. She snatched the toy to make the baby cry.

II. (8), (9), (10)

III.
1. purpose
2. purpose
3. purpose
4. subject
5. purpose
6. verbal complement?
7. verbal object ?
8. purpose

Go over Worksheet No 14

optional vocabulary:
CONSTITUENT SENTENCE

GENERALIZATION: Now that we have reviewed the three general uses of the infinitival phrase in transformations involving a matrix sentence and an insert or constituent sentence, and have seen that in most cases there is quite a restriction on the kinds of VERB which can precede the infinitival construction, it might be well to show you another kind of sentence which is much easier to get: It is another kind of purpose sentence which involves, ordinarily, the same NOM in both the matrix and the insert or constituent, sentence.

There are two sentences such as:

I walked out beyond the town.
I looked at the weather.

These two sentences can be combined to produce:

I walked out beyond the town in order to look at the weathe

And this sentence is often shortened to

I walked out beyond the town to look at the weather.

The same kind of thing can be done with a transitive verb:

He took a pill
The pill eased the pain

is like

Jake took Brett to the station
Brett boarded the train.
These are INFINITIVAL PURPOSE ADVERBIAL. The in-order-to sentence constituent is a WH transformation, which will be taken up directly

"He took a pill to ease the pain" can be from the matrix sentence: "He took a pill" + "He eased the pain." The combination is "He took a pill to ease the pain " Do you see why this is different from "He tried to pull the car out of a roll on the curve" and from "Jake took Brett to board the train at the downtown station."

The infinitival structures we have gone over, even the "in order to" ones, are all structures that can be used in the place of some NOM That is, they can be used as subjects or as objects of verbs or prepositions. In the latter case, the preposition "for" is deleted from the terminal.

Remember, when the two subjects are the same, the second "for" is also deleted, as well as the first. The second "for" is the one which comes along with the nominalizations.

The motor is for a purpose.
The motor drives the shaft.

The motor is for + for the motor to drive the shaft.

The motor is to drive the shaft.

These infinitival structures, then, can be called nominalization

NOMINALIZATION

There is another kind of verbal nominalization which also removes the TENSE or sentence time from a verb phrase. It is the gerundive nominal.

GERUNDIVE NOMINAL

As you might suspect, this is the nominalization which takes the second kind of event time, the event time that views the even "in process" or "from the middle" of the event. Who can name a few of these verbals as they appear in verb phrases with sentence time?

(walking, swimming, ticking, floating, etc)

And when there is sentence time in the sentence, these verbals were formed with the AUX element.............

(BE + ING)

The nominalization of the -ING verbal in comparable to the "To" nominalization TENSE is removed and with it any AUX element but the -ING affixed to the VERB. As with the infinitival nominal, there is a matrix sentence containing an abstract noun. This matrix sentence can be either something like: "I know the thing" or "I know the action". Or it can be something like "The thing is interesting" or "The action is interesting". Let us look back at Worksheet No 14. to see whether we can detect any difference in the way we understand the infinitive when "thing" or "action" is the abstract noun in the matrix sentence.

Allow discussion of Worksheet No. 14 from this angle.

There are several restrictions on vocabulary in the gerundive nominalizations, but for our purposes here we will take the most general transformation and mention the restrictions, which you understand in use though you may be unaware of the boundaries that are operating in the membership of these classes of verbs.

Follow the rewrites by writing them down in your notebooks while I do them at the board.

$$\left.\begin{array}{l} X + DET + N_a + Y \\ NOM + AUX + VERB \end{array}\right\} \text{ In } \xrightarrow{\text{p-h}} \left.\begin{array}{l} X + X_1 + X_2 + Y \\ Z_1 + Z_2 + Z_3 \end{array}\right\}$$

$$\xrightarrow{{}^{T}\text{gerundive nominal}} \quad X + Z_1 + \left\{\begin{array}{c} GEN \\ ACC \end{array}\right\} + ING + Z_3 + Y$$

$$\xrightarrow{\text{REmove from p-h}} \quad X + NOM + \left\{\begin{array}{c} GEN \\ ACC \end{array}\right\} + ING + VERB + Y$$

But in order to do transformation terminal, it will be necessary to do a permutation and an affixation before removing from place-holder What must be permuted?

(ING and VERB)

Then what must be affixed?

$$(VERB \oplus ING \text{ and } NOM \oplus \left\{\begin{array}{c} GEN \\ ACC \end{array}\right\}$$

So the rewrite will look like this when it is finally removed from the place-holder.

$$(X + NOM \oplus \begin{array}{c} GEN \\ ACC \end{array}) + VERB \oplus ING + Y$$

X ⟶ any context

Y → any context
NOM → Mary
VERB → GO
Na → action

$^{T}\xRightarrow{\text{terminal}} \left\{ \begin{matrix} \text{Mary's} \\ \text{Mary} \end{matrix} \right\}$ going

If X________ "Idon't like. . .", would you choose GEN or ACC to affix to Mary?

(either one, depending on the dialect)

If X_______ the sentence boundary and the nominalization is going to be used as the subject, which would be used?

(The GENETIVE: Mary's going bothers me)

If X contains a NOM that is the same as the NOM of the insert sentence, what do you suppose will happen if the nominalization is used as an object:

Mary doesn't like the action.
Mary takes the bus.

Mary doesn't like Mary's taking the bus.

(the NOM will be deleted, too)

Yes, we would have as a terminal: Mary doesn't like taking the bus. If there were an adjective placed in front of the resultant gerundive nominal, as in "His rapid drawing" and an object after the verb, as in "drawing the picture," what would have to happen?

(His rapid drawing of the picture)

What was the rewrite from which one would have gotten "HIS"?

(HE $\oplus$ GENETIVE)

Drill with several examples each

What would we get with HE $\oplus$ ACCUSATIVE?

(Him)

What do we get with NOUN $\oplus$ ACCUSATIVE

(NOUN $\oplus$ 0)

Now you learned many new things in this lesson. You learned how to rewrite the gerundive nominalization, how to affix GENETIVE and ACCUSATIVE to NOUN, and how to make some adjustments in case the gerundive nominalization is used with an ADJECTIVE or whether the whole nominalization is used as a verbal object, in which case either the GENETIVE or the ACCUSATIVE may be used depending on the dialect and certain other facts such as the length of the subject. Now here is a worksheet which reviews all these things for you.

Distribute Worksheet No 15

Unit 803
Worksheet No. 15

Name______________________________

I Perform Transformation Gerundive Nominal mentally for each of the following sentences. Remember to remove the AUX, especially sentence time. Then add ING, (since you removed it with AUX). Use GENETIVE in every case below.

1. X + the action + Y EX. Mary's taking (of) the books.
   Mary took the books.

2. X + the fact + Y
   Mary has a cold.

3. X + the action + Y
   Marco Polo traveled to China.

4. X + the action + Y
   Mary drinks her medicine quickly.

5. X + the action + Y
   John received the coveted award.

6. X + the fact + Y
   The advertisers depend primarily on statistics.

7. X + the fact + U
   Mary resembles her mother.

8. X + the fact + Y
   The doctor believes her story.

9. X + the fact + Y
   The boys admire her friends.

10. X + THE action + Y
    Theodore White is writing a new book.

II. Place an adjective before those of the above gerundive nominalizations which replace "the action" and write the terminals. Do the transformation mentally.

EX. 1. Mary's thoughtless taking of the books.
3.
4.
5.
10.

III. Rewrite X as NOM + V_t and then, write terminal sentences with the gerundive nominals listed below: (N.B. Verbs of personal reaction such as "like," "mind" etc. are good for this kind of sentence)

EX. 2 Mother doesn't like Mary's having a cold.
6.
7.
8.
9.

ANSWERS FOR WORKSHEET NO. 15

2. Mary's having a cold.
3. Marco Polo's traveling to China.
4. Mary's drinking quickly of the medicine.
5. John's receiving of the coveted award.
6. The advertisers' depending primarily on statistics.
7. Mary's resembling her mother.
8. The doctor's believing her story.
9. The boy's admiring her friends.
10. Theodore White's writing of a new book.

3. Marco Polo's remarkable traveling to China.
4. Mary's quick drinking of the medicine.
5. John's calm receiving of the coveted award.
10. Theodore Whites' premature writing a new book.

3 The medieval mind was astounded by Marco Polo's remarkable traveling to China.
4. Billy marveled at Mary's quick drinking of the medicine.
5. No one believed John's calm receiving of the coveted award.
10. The press criticized T.W.'s premature writing of a new book.

Before taking up the third manner of removing sentence time, we must detour briefly. We must mention the WH Transformation which was touched upon in connection with the "in order" to purpose clause. There are several kinds of WH transforms, but at this point we will learn about only one, the one that makes a "who-clause".

WH transformation

If there is a base phrase marker NOM + PRED, a WH transformatio can be performed

NOM + PRED $\xRightarrow{\text{Place holder}}$ $X + X_1 + X_2 + Y$

NOM → Mary
PRED → walked home

$^{T}\xRightarrow{\text{affix}}$ WH + NOM + PRED

$^{T}\xRightarrow{\text{terminal}}$ who walked home

NOM → the sewing machine
PRED → was working well until now

$^{T}\xRightarrow{\text{terminal}}$ which was working well until now.

Leave **Question** till later (804)

Notice that there is no permutation before the affixation and that this affixation completely removes the original NOM as far as terminal shape is concerned, though it still is a NOM in function. It still does everything the NOM did.

But as we said above, the WH transformation does something to sentence time. Obviously, it does not remove TENSE. But it cancels it, in favor of some other sentence time. Again, at this point, we will discuss only one the one which uses the terminal as an insert sentence in a matrix in a set such as the following

MATRIX: The sewing machine suddenly broke a needle.
INSERT: The sewing machine was working well until now.

What is the WH transform?

(which was working well until now)

Which members of the two sentences are identical?

(the sewing machine)

Which symbol in the base phrase marker → "The sewing machine"

(NOM$_1$)

Now do you see how, if there are two deep phrase markers with an identical NOM$_1$ and the WH transformation is done on the constituent sentence, the transform can be inserted into the matrix. Where would it go?

$$(X + X_1 + X_2 + Y + Z_1 + Z_2 \quad X + X_1 + WH + Z_1 + Z_2 + Y)$$

Yes, after X_1 - the NOM of the matrix. And the PRED of the matrix comes after the insertion What is the terminal?

(THe sewing machine, which was working well until now, suddenly broke a needle.)

Drill by having members of the class give matrix and insert sentences for which other students provide the WH and insert transforms.

N.B. There are, of course, several other more radical ways than this to "cancel" sentence time by the use of so-called relatives and adverbial conjunctions. These will be taken up more thoroughly in the next unit.

Very good' Now if we all understand that we can see how a second transform will really remove sentence time, not just cancel it out by insertion into another terminal unit with its own sentence time. Let's go back to the "sewing machine" example Do both verbs have the same sentence time?

(Yes PAST)

Do both have the same "event time"?

N.B. You may have to re- the notion of simple tense, which as we said, looks much like the past participle. With a semantic complication which by the notion of the action seems to indicate "end".

(No "was working" shows the event in progress; "broke" shows the action in the PAST from the beginning)

Now if AUX is removed from "was working", what do we have.

(work)

And from"broke"?

(break)

Everything in the AUX is removed except what has been affixed to the VERB: i.e , ING OR EN or "to" If not these, one or another is added by the transformation.

Right. Of course, all we need to do is remove TENSE. But if we do this in a sentence like the above, we can delete the WH $\oplus$ NOM and the rest of the AUX too and have this:

TRANS**FORMATION** PARTICIPIAL PHRASE

the sewing machine, which was working well--until now suddenly broke a needle. ^{T}participle The sewing machine, working well until now, sentence broke a needle.

It appears, actually, that this deletion which we have just called ^{T}participial phrase can be done on any sentence that has received a WH transformation already. We can have any of the following:

the man who is standing there is John
the man who is taken there is John
the man who is to go there is John
the man who is over there is John
the man who is for us is John
the man who is asleep there is John

Perform the deletions mentally and give the terminals:

(the man standing there is John.
the man taken there is John.
the man to go there is John.
the man over there is John.
the man for us is John.
the man asleep there is John.

Distribute Worksheet No. 16

I'm sure a little practice on these will be as much fun as help

Unit 803
Worksheet No 16

Name________________________________

I Write terminal sentences for the following matrix-constituent sentence sets: Use A) the WH transform, then b) the insert-sentence transform.

1. M The bus driver left early
   C. The bus driver walked home.

EX. a The bus driver who left early had to walk home.
b. The bus driver, leaving early, had to walk home.

or

The bus driver to leave early had to walk home.

2. M. The princesses wore out their shoes.
   C. The princesses danced all night.

3. M. The dove belonged to Mary Lou
   C. The dove was flying to Mrs Smith's window.

4. M. The campus enjoyed the film.
   C. The campus was seeing the film.

5. M. The icebergs sank the Titanic.
   C. The icebergs were very far south.

6. The Titanic traveled too far north.
   The Titanic was sunk by icebergs.

II Write 10 sentences of your own from which sentence time has been deleted after a WH transformation.

1
2.
3.
4.
5.
6.
7.
8.
9.
10.

III. Be prepared to discuss the punctuation of these sentences as regards the need for commas.

Answers for Worksheet No. 16

2. The princesses, who danced all night, wore out their shoes.
   The princesses, dancing all night, wore out their shoes.

3. The dove, which was flying in Mrs. Smith's window, belonged to Mary Lou.
   The dove (which was flying in Mrs. Smith's window) belonged to Mary Lou.

4. The campus who were seeing the film enjoyed it.
   The campus seeing the film enjoyed it.

5. The icebergs, which were very far south, sank the Titanic.
   The icebergs (which were very far south) sank the Titanic.

6. The Titanic, which was sunk by icebergs, traveled too far south.
   The Titanic, sunk by icebergs, traveled too far south.

II Answers will vary.

III Discuss the punctuation. While this is chiefly the work of the next unit, it might be possible to generalize that on the whole the WH clauses above are best considered non-restrictive. The participial phrase is probably ambiguous in structure; i.e. it can be either. See No. 3

Go over Worksheet No. 16

GENERALIZATIONS: There are considerable restrictions on the 6D vocabulary of verbs which will undergo this transformation. Often this participial phrase is permuted from the past-nominal position to a prenominal position: When this happens, there is always a comma in written English:

> The thief, jumping into the car, broke his leg.
> Jumping into the car, the thief broke his leg.

In class:

Give the sentence that existed in the deep phrase marker before the following sentences were developed.

Participial

1. Jumping into his car, the thief broke his leg.
2. Hoping for better conditions, the teacher joined a union.
3. Wanting a better grade, the student paid the teacher.
4. Smelling the herring, Sir Toby belched.
5. Crossing his garters, Malvolio sneered.
6. Leaping onto the cannon, Henry V shouted encouragement to his troops.
7. Smiling to himself, Holden planned his grand entrance.
8. Ignoring the Widow, Huck smoked.
9. Ignoring his doctor, Edward R. Murrow died of lung cancer.
10. Relaying radio signals to earth, Mariner IV drifted nearer and nearer to Mars.

Distribute Worksheet No. 17

Unit 803
Worksheet No 17 Name______________________________

Directions: Delete the WH and the auxiliary and add a predicate:

1a The professor who was writing the huge book, + PRED

2a. John, who was receiving the coveted award, + PRED

3a. The nominee, who has begun his acceptance speech, + PRED

4a. The advertisers, who were depending primarily on rating statistics, + PRED

5a. Marco Polo, who was travelling to China, + PRED

6a. Summer, which is bringing with it many showers, + PRED

7a. Mary who is drinking her medicine + PRED

Suggested Completions for Worksheet No. 17

1b. The professor, writing the huge book, is exhausted.

2b. John,receiving the coveted award, beamed.

3b. The nominee had begun his acceptance speech.

4b. Advertisers, depending primarily on rating statistics, sometimes neglect copy.

5b. Marco Polo, travelling to China, remained there for twenty years.

6b. Summer brings with it many showers.

7b. Mary, drinking her medicine, coughed twice.

The title of this unit is "Structures in time, Mode, Causality, and Manner". We have discussed three of these at some length. But Manner has been left till last because it falls lower on the deep phrase marker and because it cannot really be taken properly unless you know the WH and participial transforms first. It is hard, as soon as one gets out of TENSE to hold the course completely to PRED, but this is at least one more distinctively PRED transform which expresses manner. The WH-transform is first inserted after a noun; then the WH and AUX are deleted for the participial transform. Once the NOM (even a WH⊕NOM) is deleted, the tree branch diagram falls in two; there is only a PRED side.

The professor writing this huge book is my uncle, has how much NOM?

(The professor)

And the rest, as far as deep phrase markers are concerned, is derived from ________________?

(PRED)

In some way all PRED's have some kind of a modification function toward the NOM. This is usually understood in case of NOM + BE + ADJ as in "the professor is busy, writing this huge book"; which could be transformed to "the busy professor writing this book" for example. But if we wanted to accentuate, emphasize, the manner in which the professor was writing, we could take the ADJ and transform it by adding what?

(-ly)

The -ly transformation or ^{T}adverb of manner, goes something like this:

$$\left.\begin{array}{l}\text{NOM} + \text{BE} + \text{ADV}\\ \text{NOM} + \text{VERB}\end{array}\right\} \longrightarrow \begin{array}{l} X + X_1 + X_2 + X_3 + Y\\ Z_1 + Z_2\end{array}$$

$$\xRightarrow{{}^{T}\text{adverb of manner}} \quad X + X_1 + Z_2 + X_3 + \text{ly} + Y$$

$$\xRightarrow{\text{of PH}} \quad \text{NOM} + \text{VERB} + \text{ADJ} + \text{ly}$$

$$\xRightarrow{{}^{T}\text{terminal}} \quad \text{The professor is writing busily.}$$

There are a few restrictions. Perhaps you will notice them as you do Worksheet No. 18

Unit 803
Worksheet No. 18

I Perform ^{T}adverb of manner of the following. Do the transformation mentally and write the terminal.

1. John is brave. John fights.	^{T}adverb of manner	John fights bravely
2. Bob is decisive. Bob writes orders.	^{T}adverb of manner	
3. Mary was courageous. Mary spoke.	^{T}adverb of manner	
4. Jim is stupid. Jim behaves.	^{T}adverb of manner	
5. Mr Johnson appeared calm. Mr. Johnson stopped the violence.	^{T}adverb of manner	
6. Peter was quick. Peter reacted to Jim's anger.	^{T}adverb of manner	
7. The teacher was rash. The teacher punished Martin.	^{T}adverb of manner	
8 Victor seemed impulsive. Victor opened the package.	^{T}adverb of manner	
9 The soldiers were brutal. The soldiers scattered machine gun fire	^{T}adverb of manner	

As the closing to this unit, we will take another look at the whole deep phrase marker (so far, that is). What is the first left branch after THEME?

(INTONATION)

REVIEW

Yes. And we haven't even mentioned this branch since we talked about it in the very first structure unit No 704. But before we leave the basic transformations we ought to know at least a little about what happens in adult language with intonation.

Actually, of course, nothing is said without intonation, as well as the rest of phonology. What were the two general kinds of intonation we discussed in relation to child language?

(rising and falling)

Now, as we become more sophisticated speakers, what often, if not always, becomes associated with the rising intonation?

(questions)

Yes. Only certain questions, to be sure, but at least yes and no questions. And the falling intonation generally means...? Remember, we can express the manner of a person's acting by the -ly transformation. But we can also express our own manner of perception as being in question or in answer. In the second case we have a . . . ?

(statement)

How about requests.

(also fallings)

Since the intonation soon develops into a complex system, just as the SENTENCE does, it is probably best at the higher levels of the deep phrase marker, to call the branch by some more non-committal name than "rising and falling". What have we just said which would give us a better name?

(Questions, statement)

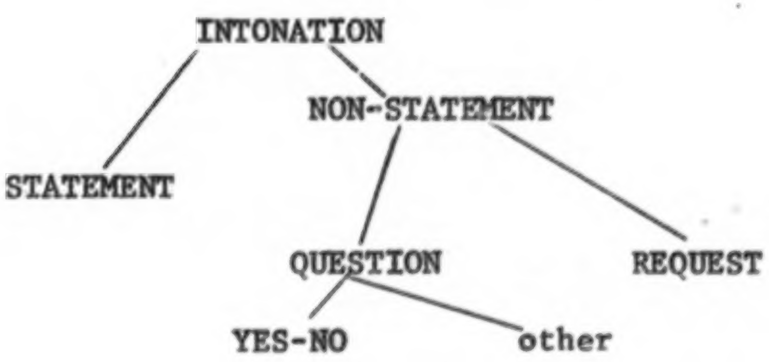
Which would be more basic?

(Statement)

But there are 3 divisions if we include requests. What about that when there are vinary branches.

(make a second cut)

Good. Then we'll have:



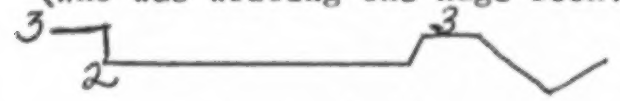
In each case, while we will not go into it, we will assume that we have programmed the various combinations of pitch, stress, and length and that they are assigned in a general way to their deep phrase marker. If we have WH + NOM + PRED, we can, instead of inserting the WH-clause inside a matrix sentence, choose the Question intonation, which will automatically supply for the cancellation of sentence time. Let's go back to Worksheet No. 17, what is the terminal for WH ⊕ NOM + PRED in sentence 1?

(who was writing the huge book)

And the choice of Question intonation would produce?

(Who was writing the huge book?)

4 levels of pitch are considered



Let's go through the whole set.

(Who was receiving the coveted award? etc)

ASSIGNMENT

Now write 10 sentences of your own, using the WH transform. Then program your own QUESTION intonations for the questions that could just as well be formed.

Go over ASSIGNMENT

Generalizations: None of these questions have rising intonation

Have students read individual sentences and choose the statement intonation. Not much else can be done here because the other question forms are not taught here but in the next unit.

TRANSFORMATION QUESTIONS

$$\text{NOM} + \text{TENSE} + \begin{matrix}\text{MODAL}\\ \text{HAVE}\\ \text{BE}\end{matrix} + \begin{matrix}\text{EN}\\ \text{ING}\end{matrix} + \text{VERB} + \begin{matrix}\text{N}\\ \text{ADV}\end{matrix}$$

$$T_{\text{ques}} \qquad \text{TENSE} + \begin{matrix}\text{MODAL}\\ \text{HAVE}\\ \text{BE}\end{matrix} + \text{NOM} + \begin{matrix}\text{EN}\\ \text{ING}\end{matrix} + \text{VERB} + \begin{matrix}\text{N}\\ \text{ADV}\end{matrix}$$

(or) in place-holder

$$\text{NOM} + \text{TENSE} + \begin{matrix}\text{MODAL}\\ \text{HAVE}\\ \text{BE}\end{matrix} + \begin{matrix}\text{EN}\\ \text{ING}\end{matrix} + \text{VERB} + \begin{matrix}\text{N}\\ \text{ADV}\end{matrix}$$

$$X + X_1 + \qquad X_2 \qquad + \qquad X_3 + \quad X_4 + Y$$

$$T_{\text{ques}} \qquad X + X_2 + X_1 + X_3 + (X_4) + Y$$

$X_1 \longrightarrow$ Vicks Cough Drops

$X_2 \longrightarrow$ __________ + __________

$X_3 \longrightarrow$ __________ + __________

$X_4 \longrightarrow$ __________ __________

T_{terminal} ______________________________________?

Write terminals only:

1. I think continually of those who are truly great $T_{\text{past tense}}$ __________________

2. The flatboats crossed the river T_{passive} __________________

3. You are going that far T_{question} __________________

4. The station is for gas $T_{\text{adjectival noun}}$ __________________

CONCLUSIONS Let's hope the end of Unit 803 looked a little easier than the beginning. Let's hope, too, that you begin to see how complex a matter it would be to program our language so that, for example, a computer could translate a Russian book into English or could *compose* a book. You must realize that many many common and (in practice) very easy transformations have no been discussed. Some of these will be taken up as we study the NOM. This unit, though, has been devoted insofar as possible to the PRED. We have given thought to the way in which we express our conception of time and how our conception of time decides the terminability of our sentences. We have seen that the *mode* of our speaking about events - as possible or past or future or present, is taken care of by the AUX, that the agent or cause, of an action, is emphasized only when there is also a receiver of the action, an object of the action; and that this causality is even more emphasized when we use the passive transform Finally we discussed the *manner in which an action is done* and the way we express that and the manner in which we *express our* perception of the action - in questions, statements, etc. While we took much time to learn to *describe* or *program* the *process* of forming sentences in a language, we have been particularly interested in having you realize that the *description* or program because it is so minute is much more complicated than forming sentences *seems* to be in practice. Still, as we learn foreign languages, we begin to see that the program shows us some facts we might not have known about how much we *really do* know when we know how to speak our native tongue.

UNIT 803 TEST

I **Match:** results with names of T.

1. $T_{\text{subj infinitival}}$
2. $T_{\text{gerundive}}$
3. $T_{\text{W H + NOM}}$
4. $T_{\text{question intonation}}$
5. T_{passive}
6. $T_{\text{aux-affixation}}$

a Who threw the overalls in Mrs Murphy's chowder?

b. To leave now is impossible?

c. When?

d. This loophole was overlooked by the defendant?

e. We had been sanding.

f. Leaving before the refreshments was a great idea

II Fill in the blanks

1. The absolute necessity for a terminable unit is ____________________

2. The base phrase marker term for sentence time is ____________________.

3. The sentence containing a N_a to be substituted for by a transformed sentence is a ____________________ sentence.

4. A verbal with ING affix presents event time seen as being ____________________.

5. An infinitive sees event time as still in the ________________.

6. The distinctive morphological sign of event time which is ended is the ________________ affix.

7. Sentence time can be deleted to leave only _____________ time.

8. There is no terminable unit after sentence time has been deleted and only ________________ _____________ is left.

III. Fill in the transformation place holder.

1 $NOM_1 + TENSE + HAVE + EN + PASSIVE + VERB_t + NOM_2 \xrightarrow{T_{passive}}$

2. NOM + BE + ADV
Mary is here $\xrightarrow{\text{PLACEHOLDER}}$ $X_1 + X_2 + X_3$
$Z_1 + Z_2$

b Mary sings
NOM_1 + VERB $\xrightarrow{T_{wh + NOM}}$

ANSWERS

1.
   1. a
   2. b
   3. a
   4. c
   5. d
   6. e

II.
   1. sentence time
   2. TENSE
   3. Complement - (or matrix)
   4. in progress
   5. future
   6. -ed (EN)
   7. event time
   8. event time

III.

1 $NOM_2 + TENSE + HAVE + EN + BE + VERB_t + BY + NOM_1$

2. $X + X_1 + WH + Z_1 + Z_2 + X_2 + X_3 + Y$

Mary, who is here, sings.

TEST - UNIT 803

Name ________________________

1. S → ________ + ________

2. NOM → ________ + ________

3. PRED → ________ + ________

4. MAIN VERB → ________ + ________

5. AUX → ________ + (______) + (______) + (______) + (______)

6. TENSE → $\left\{ \begin{array}{c} \text{\_\_\_\_\_\_\_\_} \\ \text{\_\_\_\_\_\_\_\_} \end{array} \right\}$

7. MODAL → $\left\{ \begin{array}{c} \text{\_\_\_\_\_\_\_\_} \\ \text{\_\_\_\_\_\_\_\_} \\ \text{\_\_\_\_\_\_\_\_} \\ \text{\_\_\_\_\_\_\_\_} \\ \text{\_\_\_\_\_\_\_\_} \end{array} \right\}$

8 - 10 PRESENT + MODAL

^{T}permutation $\Longrightarrow$

^{T}affixation $\Longrightarrow$

MODAL ⟶

^{T}terminal $\Longrightarrow$

11 - 16 NOM $\oplus$ SING$_1$ + PAST + PASSIVE + VERB$_t$ + DET + NOM $\oplus$ SING$_3$ $\oplus$ OBJ

^{T}passive $\Longrightarrow_2$

NOM $\oplus$ SING,
VERB$_t$
NOM $\oplus$ PLUR

Tterminal $\Longrightarrow$

ANSWERS

1. NOM + PRED

2. DET + N

3. MAIN VERB + (ADV)

4. AUX + VERB

5. TENSE + (MODAL) + (HAVE + EN) + (BE + ING) + (PASSIVE)

6. PAST, PRESENT

7. may, can, must, will, shall

8-10. PRESENT + MODAL

$^{T}\underset{\Longrightarrow}{\text{permutation}}$ MODAL + PRESENT

$^{T}\underset{\Longrightarrow}{\text{affixation}}$ MODAL $\oplus$ PRESENT

MODAL $\longrightarrow$ may

$^{T}\underset{\Longrightarrow}{\text{terminal}}$ may

11-16.

$^{T}\underset{\Longrightarrow}{\text{passive}}$ DET + $\text{NOM}_1 \oplus \text{SING}_3$ + PAST + BE + EN + VERB_t + BY + NOM $\oplus$ SING $\oplus$ OBJ

$\text{NOM} \oplus \text{SING}_1 \longrightarrow$ I
$\text{VERB}_t \longrightarrow$ carry
$\text{NOM} \oplus \text{PLUR} \longrightarrow$ baskets

$\underset{\Longrightarrow}{\text{Tterminal}}$ The baskets were carried by me.

Rewrite the following Terminals to show how we generalize the rules of language that formed them.

1 We had been standing there.
N_p + ___ + ___ ⊕ ___ + ___ + ___ + ______ ⊕ ______ + ________

2. She went to town.
Np ⊕ _____ + _____ ⊕ ______ + ______ + _____ ⊕ ______.

3. Mary, will you come to work on the paper
Question + _______ + ________ + N_p ⊕ ________ + _________ + _______ + ________ + _____ + ______ ⊕
_______ ________?

WORK THE TRANSFORMATIONS BELOW:

1. NOM_1 + PRESENT + HAVE + EN + PASSIVE + VERB_t + NOM_2

$\xRightarrow{\text{T}_{\text{passive}_1}}$

$\xRightarrow{\text{T}_{\text{passive}_2}}$

2. $\underbrace{\text{NOM}_1} + \underbrace{\text{TENSE}} + \underbrace{\text{PASSIVE}} + \underbrace{\text{VERB}} + \underbrace{\text{NOM}_2}$

$\xRightarrow{\text{Passive place-holder}}$

3. $\underbrace{\text{DET + N}} + \underbrace{\text{TENSE + BE}} + \underbrace{\text{ADV}}$

$\xRightarrow{\text{T}_{\text{there place-holder}}}$

$\xRightarrow{\text{T}_{\text{there}}}$

4. N + PRES + VERB

$\xRightarrow{\text{T}_{\text{past tense}}}$

ANSWERS

1. $\text{N}_\text{P} \oplus \text{PLUR}_3 + \text{PAST} \oplus \text{VERB} + \text{BE} \oplus \text{EN} + \text{VERB} \oplus \text{ING} + \text{ADV}$
2. $\text{N}_\text{P} \oplus \text{SING}_3 + \text{PAST} \oplus \text{VERB} + \text{PREP} + \text{N} \oplus \text{SING}_3$
3. $\text{Question} + \text{N}_\text{proper} \oplus \text{SING}_2 + \text{PRES} \oplus \text{MODAL} + \text{Np} \oplus \text{SING}_2 + \text{VERB} + \text{TO} + \text{VERB} + \text{PREP} + \text{DET} + \text{N} \oplus \text{SING}_3$

1. ${}^{T}\underset{\Longrightarrow}{\text{passive}}_{1}$ $\text{NOM} + \text{PRESENT} + \text{HAVE} + \text{EN} + \text{BE} + \text{EN} + \text{VERB}_t + \text{NOM}_2$

   ${}^{T}\underset{\Longrightarrow}{\text{passive}}_{2}$ $\text{NOM}_2 + \text{PRESENT} + \text{HAVE} \quad \text{EN} + \text{BE} + \text{EN} + \text{VERB}_t + \text{BY} + \text{NOM}_1$
2. $\text{NOM}_1 + \text{TENSE} + \text{PASSIVE} + \text{VERB} + \text{NOM}_2$

   $\underrightarrow{\text{Passive place-holder}}$ $X + X_1 + X_2 + X_3 + X_4 + X_5 + Y$
3. $\underrightarrow{\text{There place-holder}}$ $X + X_1 + X_2 + X_3 + Y$

   ${}^{T}\underset{\Longrightarrow}{\text{there}}$ $X + \text{there} = X_2 + X_1 + X_3 + Y$
4. ${}^{T}\underset{\Longrightarrow}{\text{past tense}}$ $\text{N} + \text{PAST} + \text{VERB}$

Write rules for the following sentences. Be sure to use capital letters and to print. The first one is started for you.

During the summer, the days were usually pleasant
PREP + DET + N + SING + DET + N+PLUR + V + PAST + ADV + ADJ

AND BUSY. I would sprawl lazily on the rustic benches facing Old Baldy, and wait for the bragging, breathless, thirsty hikers, who would almost certainly stop at our Inn. A combination of general store, gas stations, refreshment stand, and souvenir shop. It stood clean and attractive among the pines and the shadows at the foot of the mountain. Like Old Baldy, it seemed old and secure and friendly.

ANSWERS

During the summer the days were usually
PREP + DET + N + SING$_3$ + DET + N + PLUR + V + PAST + ADV$_m$

pleasant and busy. I would sprawl lazily on the
ADJ + CONJ + ADJ$_{des}$ N$_p$ ⊕ SING$_1$ + MOD$_w$+PAST VERB + ADJ + PREP + DET

rustic benches facing Old Baldy and wait
ADJ$_{des}$ + N ⊕ PLUR$_3$ + VERB + ING + N$_{proper}$⊕SING$_3$ + CONJ + VERB

for the bragging, breathless, thirsty hikers who
PREP + DET + ADJ$_{des}$ + ADJ$_{des}$ + ADJ$_{des}$ + N + PLUR + N$_p$ + wh$_{relative}$

would almost certainly stop at our Inn.
MOD$_w$ + PAST + ADV$_{intensive}$ + ADV$_m$ + VERB + PREP + N + PLUR + POSS + N+SING

A combination of general store, gas station,
ADJ$_{art-inde}$+N+SING + PREP + N$_{comp}$ ⊕ SING$_3$ + N$_{comp}$ ⊕ SING$_3$

refreshment stand, and souvenir shop. It stood clean
N$_{comp}$ ⊕ SING$_3$ + CONJ + N$_{comp}$ ⊕ SING$_3$ + N$_p$ + SING$_3$ + VERB ⊕ PAST + ADJ$_{des}$

and attractive among the pines and the shadows af
CONJ + ADJ$_{des}$ + PREP + DET + N ⊕ PLUR$_3$ + CONJ+DET + N ⊕ PLUR$_3$PREP +

the foot of the mountain. Like Old Baldy, it seemed
DET + N⊕SING$_3$ + PREP + DET + N ⊕ SING$_3$ PREP N$_{prop}$ ⊕ SING$_3$ + N$_p$+SING$_3$ + VERB ⊕ PAST

old and secure and friendly
ADJ$_{des}$ + CONJ + ADJ$_{des}$ + CONJ + ADJ$_{des}$

schools
peddle
crush
exercise
part

close
force
express
vow
pen

type
camp
can
level
pump

box
hand
work
mass
review

torture
whip
seed
reason
cook

---

1. $\mathrm{DET} + \mathrm{N}$ $\left\{\text{school}\right\}$ $\mathrm{S} \longrightarrow \underbrace{\mathrm{DET} + \mathrm{N}} + \mathrm{V} + (\mathrm{X})$

2. $\mathrm{VERB} \oplus \mathrm{PAST}$ $\left\{\text{school}\right\}$ $\mathrm{S} \longrightarrow \mathrm{NOM} + \mathrm{V} \oplus \mathrm{PAST} + \mathrm{X}$

3. $\mathrm{DET}_{\mathrm{non\text{-}def}} + \mathrm{ADJ} + \mathrm{N}$ school S $\mathrm{N_p} \oplus \mathrm{SING_3} + \mathrm{BE} + \mathrm{ADJ} + \mathrm{N}$

4. $\mathrm{NOM} + \mathrm{BE} + \mathrm{EN} + \mathrm{V} + \mathrm{NOM}$ ______ $\Big\{$
(school)

5. $\mathrm{DET} + \underset{\{\text{school}\}}{\mathrm{N} + \mathrm{BE}} + \mathrm{ADV} \longrightarrow$ ____________ $T_{\underrightarrow{\text{there}}}$ ____________________

6. $\mathrm{DET} + \underset{\{\text{school}\}}{\mathrm{N}} + \mathrm{PASSIVE} + \mathrm{VERB}_t + \mathrm{NOM}$ ______________ $T_{\underrightarrow{\text{passive}}}$

7. $\mathrm{NOM} + \underset{\{\text{school}\}}{\mathrm{PRES}} + \mathrm{VERB} + (\mathrm{X})$ $T_{\underrightarrow{\text{past tense}}}$ ________________

8. $\mathrm{DET} + \mathrm{NOUN} + \mathrm{PRESENT} + \mathrm{BE} + \mathrm{ING} + \underset{\{\text{school}\}}{\mathrm{VERB}} + (\mathrm{ADV})$ $T_{\underrightarrow{\text{there}}}$

9. the____________ a____________ some____________-s a very big ____________

was__________-ed is__________-ing have__________-ed Six______________s

Unit 804

Structures of Specification, Place, and Number

Grade 8

CAUTIONARY NOTE

These materials are for experimental use by Project English fellows and their associates who contributed to their developement.

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UNIT 804

STRUCTURES OF SPECIFICATION, PLACE, AND MANNER

INTRODUCTORY MATERIAL

Like the other units in the transformational series of the Project English materials, Unit 804 does not so much attempt to make the students conversant with any particular grammatical system but rather to make them aware of some fundamental facts of language. Some of these general concepts follow:

--that the extension of reference of nouns is affected by the determiner as well as by the semantic content of the noun itself (whether it is very generalized, as _thing_ or more specified as _John Deere tractor_.)

--that the transformational rules that operate in the establishment of agreement between subject and verb (phonologically signaled by NOUN plus "s" and VERB minus "s") are essentially like the reordering rules which operate in the passive and other transformations studied in Unit 803.

--that transformational rules (e.g. certain subject-verb or pronoun antecedent rules) sometimes differ from dialect to dialect.

--that the phonological rules governing number are related primarily to the subject (NOM) part of the sentence rather than to the PRED part of the sentence (verb phrase).

--that the phonological rules governing intonation pertain to the entire sentence rather than to either NOM or PRED.

--that nevertheless, once an intonation pattern has been chosen, certain transformational rules may have to go into operation, such as the question transformation in case question intonation is chosen. (The question transformation permutes the NOM and part or all of the AUX (auxiliary)).

It may well be that students in 8th grade need more inductive material than this unit offers to become truly cognizant of the above concepts in any permanent way. It is the contention of this author, however, that even the extensive amounts of drill ordinarily gone through in a traditional approach have failed to achieve this and have, in addition, engendered some contempt for language studies. Perhaps a majority can at least acquire a general idea of the process of arriving at language generalizations.

For every grammatical rule IS A GENERALIZATION and has been arrived at by means of observation. If the generalizations now seem insignificant, it may be because observation has lagged.

Unit 804, then, should be taught as a means of bringing to the student's mind the need for more accurate observation and for the need to make simple and accurate generalizations based on that observation.

Perhaps a more extensive testing program would be needed to give the students security in the feeling that they are learning facts. A very real difficulty in teaching generalization is that when children are learning to capsulize everything they have learned, they find the result not so impressive as a list of 50 new vocabulary words or the names of the capitals of all 50 states.

To wait, however, until the child has to handle so many facts that he doesn't know where to start organizing is an alternative that does not seem much more desirable. It is the contention of this author that the mere method of organizing information used in this and preceding transformational units is a valuable tool for the thinking student and that even if no specific grammatical rules at all are taught exhaustively, the child will have acquired an invaluable method of organizing and reordering facts and relating them to one another. That is, he will have learned a form of symbolic logic which he should be able to use in every field of study.

Also, in conformity with the theory that for the junior high student, synthesis is more interesting than analysis, this unit is designed more as a sentence-writing unit than as a analysis unit. In it, as in 803, there is a process to be gone through and an "answer" to be found at the end of the process. The teacher who would want to do more analysis could turn some of the drills backwards and work the other direction.

Without question this unit will provide no thorough understanding of gerunds, restrictive and non-restrictive modification, agreement, pre-nominal modifiers, relative clauses, or conjunctions. There might, however, develop an interest in simplifying the way in which we talk about language and a desire to manipulate the symbols or at least the sentence elements themselves. A more practical application of these concepts is designed to come through Unit 905, "Transformations in Paragraph Revision."

Sample Introduction

In Unit 704 we learned about some of the very basic aspects of language structure. We learned that most aspects of language can be broken down into binary contrasts of one kind or another and that once broken down this way they can be reduced to the level of computer logic; that is, to a very simple, step-by-step sorting process or something possibly like it. This sorting process, very tedious when pursued systematically and exhaustively, for the purpose of theorizing and writing, it nevertheless performed quickly, easily, and at incredible speeds when we speak to each other. Day after day we select words, sentences, conversations, and if we are very ambitious into written statements, letters, documents, even books.

We have already studied some of the basic differences between standard and non-standard, formal and informal, written and spoken language, investigating the characteristics of each to see whether one or another characteristics were inherent or conventional.

Would you say that the characteristics of binary structure which we have studied in Unit 803 were inherent or conventional?

(Inherent)

When we made statements in sentences, we saw that certain of these statements were what we could call terminable units. Is the notion of "terminable unit" an inherent or a conventional aspect of language structure?

(Conventional, at least when it comes to written work)

Those statements which we said could be called "terminable units" were those containing sentence time or TENSE. What was the general manner of punctuating these?

(with a period)

To say, however, that a "terminable unit" can "stand alone" is an over simplification. There are many other problems which make adjustments necessary. It will be the purpose of this unit to clarify and explain and classify a few of the other problms which make "terminable units" less independent.

Basically, what we have to consider is the process of extension. We have already discussed some of the concepts of extension in Unit 702 when we took up abstraction, generalization, and specialization. In these units we saw how the area of meaning of words can be extended or narrowed.

We saw that in a scale of superordinates and subordinates, the so-called "abstract" nouns were higher up. If we diagrammed the superordinates and subordinates by means of circles, the superordinates which covered larger categories were on the larger circles and the subordinates, which stood for smaller categories were the inner, smaller circles. The "set" of objects for which the superordinates stood was represented by the larger circle and the more "abstract" noun; the set of objects for which the subordinates stood was represented by the smaller circle and the less "abstract" noun--always remembering, of course, that the word itself, written or spoken, is really concrete and only stands for the abstract referents which we call "sets" or "categories."

In Unit 702 we tried to show how the meaning of words changed from period to period of history (as "tap") or from person to person and group to group. We said that if a word's meaning became more generalized it came to cover a larger area, if it became specialized it became to cover a smaller area or "set" of objects.

In this unit we are going to study some other means, grammatical ones, of generalizing or specializing the meanings of words. This time the words we discuss are going to be confined rather strictly to one grammatical category, the set of sentence parts which fall to the left of the deep phrase marker, the NOM.

The area, or extension, of the NOM, then, is due partly to the word itself and the history of usage it has had-- to the semantic values it has acquired over the years. The area, or extension, of the Nom, is also due partly to grammatical specialization, or, to make the term distinctive to what we are now going to study, specification. Perhaps the simplest way to show you what we mean is to give you an example.

WRITE ON BOARD

tree

Name a subordinate:

(pine)

Name a superordinate:

(plant)

Now which direction am I moving, toward superordinate or subordinate, when I write "the tree"?

Write "the" in front of "tree"

(toward subordinate)

Yes, ordinarily when I designate "the tree" I am referring to a particular tree. This, however,is not necessarily true. I could use the phrase in a sentence as follows: "The tree is found on the lower western slopes of mountains as high as 8000 feet." Am I discussing a particular tree?

(No.)

You are right. In this sentence I am making a statement about trees in general. Is the extension larger or smaller than if I said "The tree in our back yard is dying."?

(Larger.)

Good. Do you see, then, that in these cases there are two grammatical factors working to affect the extension of the word "tree"? There is the article "the" and there is the phrase "in our back yard". Strictly speaking, we should call the first ("the") the process of specification and the second ("in our back yard") the process of modification. We will take these two processes in turn specification first and modification second.

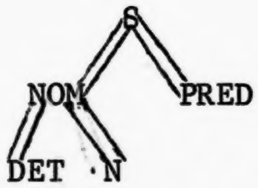
TRANSITION

You may recall that in some of the worksheets we did in Unit 803 we had a branch we called "DETERMINER" or, abbreviated, DET. What was the usual traslation when we did Transformation Terminal on strings containing DET?

("The.")

Who can draw the deep phrase marker so that it has a branch DET?

(someone should be able to draw:



Is DET a terminal?

(No, a non-terminal. It transforms to "the.")

Is "the" the only translation of DET?

Students may need leading questions to come to these examples. The "frame" may come in handy; What other words can go here:______ tree?

(No. There are others. "A", "this", "six".)

Good. I may write "a tree" or "the tree", or "one tree." Can I write "six tree"?

(No. You must write "six trees.")

"Six" is an indication of what aspect of "tree"?

("Tree" must be plural.)

Is "plural" the only possible branch, or does it have to contrast?

(It has a contrast in the binary system: singular

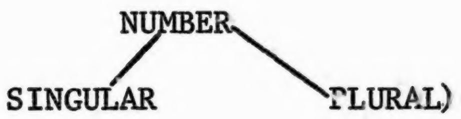
Then what is the superordinate of "plural"?)

STUDENTS WILL PROBABLY NEED HELP TO COME TO THIS TERM

(NUMBER)

Who can draw a tree branch to show the contrast that is exemplified by: tree-trees?

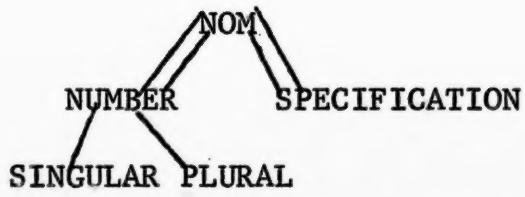
(Someone should be able to draw:



Is the diagram of a selection or an expansion?

(selection)

Yes, because one must be inferring either to singular or to a plural referent. Now, how can we connect NUMBER into the deep phrase marker?



And how will SPECIFICATION be broken down?

(Into branches that will end or terminate in "the" and "a".)

In order to know just what the non-terminals or superordinates of "the" and "a" are, we will have to examine just what meanings these articles have. What were two meanings we already discovered for "the"?

("a certain member of a set" and "the universal idea.")

WRITE ON BOARD

Then what is the difference in meaning between "a tree" and "the tree"?

("A" denotes any arbitrary member of a set and "the" denotes a certain member of a set.)

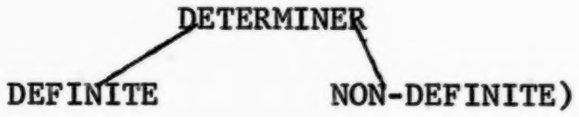
There is a good word that expresses this difference DEFINITE and NON-DEFINITE. Which would be the DEFINITE DETERMINER?

("the")

And the NON-DEFINITE DETERMINER?

("a")

Express this contrast in a tree-branch diagram.



Now, before I give you a worksheet on this contrast, let us check just to be sure that all understand just what kind of extension the definite and non-definite determiners have. Actually this contrast is a logical one, one you run across in mathematics too. The non-definite determiner actually signifies a universal extension, too. The extension is tojust any of the whole set. Any single member of the set of trees may be the one that has the characteristics of which the sentence speaks. That means that what is said of "a" tree must be able to be said of all trees or else I could not take an arbitrary member of the set and make this statement, for example, "a tree" has a trunk. If I said "I'd like a tree next to the door in our back yard," I am referring to the most general inherent qualities of trees, since obviously I do not want a redwood 25 feet in diameter. The extension, therefore, of "a" is to the most general qualities which distinguish the category to which I am referring in such a way that the characteristics of any member of the set would fit into the scheme I outline in the sentence.

On the other hand, when I speak of "the" tree, if I make any statement about a certain member of the set I must add some modification to it so as to help the receiver of my message toward a conception of the certain member of the set which I am talking about. That is why I would probably say "I like the tree in our back yard" rather than merely "I like the tree."

WRITE ON THE BOARD

Another pair which may illustrate this contrast is the following;

A man has to live
The man has to live.

The first is a universal statement. The extension is the whole set of men. Any arbitrary member of the set is supposed to have the generalized characteristic of the need for survival. In the second sentence, it is a certain man who manifests his desire to survive or of whom I say he has the need to survive. This man's feeling may or may not be shared by the rest of the set.

DISTRIBUTE WORKSHEET NO. I

Since there is only one different element in the two sentences, this difference in the extension must be caused by the Determiner. This contrast exists in sentences like the above when the intonation and all other elements in the sentences are identical. Before we go on now, to other contrasts, we will do this exercise:

Unit 804
Worksheet No. 1.

Name________________________________

Rewrite the following sentences, choosing DEFINITE rather than NON-DEFINITE in DETERMINER. Then express the semantic contrast between the sentences of each pair.

1. A man is getting out of the car.

2. A barn needs constant repair.

3. A scandal arose in the neighborhood.

4. A field of grain ripens in August.

5. A stream meanders.

6. A cow will chew her cud for hours.

7. A spoiled child is a pest.

Which selection in NUMBER was made for each of the above?

(singular)

If plural were chosen what would happen to A man is getting out of the car?

(The article drops or is substituted by "some")

Yes. The NON-DEFINITE determines when the Noun is PLURAL is Ø. Does anything else happen when plural is chosen?

(Yes, the verb)

Choose PLURAL for each of the sentences in Worksheet No. 1. Express the semantic meaning in a sentence.

Ex. Some men-an arbitrary few More than one member, of the set of men getting out of the car.

Choose PLURAL for each of the sentences with DEFINITE determiners:

the men - - - - etc

Express the semantic value of each sentence.

(A certain few known members of the set of men . . etc.)

Have students look at Deep Phrase Marker

Note the NUMBER comes before DETERMINER and before NOUN. This is because the choice of singular or plural affects the rest of the sentence. Sometimes it changes the determiner to Ø, sometimes it changes the form of the NOUN. If the TENSE is present, it changes the form of the VERB also. In certain cases NUMBER affects the form of the determiner, and in the case of BE, the past tense also is affected by NUMBER. If there are subordinate clauses,they, too, must be adjusted according to the choice of SING or PLURAL in the NOM. Each of these adjustments will be taken up in turn, and since the change in the form of the NOUN is most familiar, we'll do that first.

DISTRIBUTE WORKSHEET
NO 2.

7 A

Unit 804
Worksheet No. 2

Name ______________________________

Singular   Plural transformations

1. $X + X_1 + X_2 + X_3 + Y \quad \xrightarrow{{}^{T}\text{permutation}} \quad X + X_2 + X_1 + X_3 + Y$

$X + X_2 0 + X_1 + X_3 + Y \quad \xrightarrow{{}^{T}\text{affixation}} \quad X + X_2 0\ X_1 + X_3 + Y$

$X + X_2 0\ X_1 + X_3 + Y \quad \xrightarrow{{}^{T}\text{terminal}}$

$X_1 \longrightarrow$ PLURAL
$X_2 \longrightarrow$ I
$X_3 \longrightarrow$ SANG

2. $X_1 + X_2 + X_3 + X_4$

$\xrightarrow{{}^{T}\text{permutation}} \quad X_1 + X_3 + X_2 + X_4$
$\xrightarrow{{}^{T}\text{affixation}} \quad X_1 + X_3 0\ X_2 + X_4$
$\xrightarrow{{}^{T}\text{terminal}}$

$X_1 + \text{DOG} + \text{S} + X_4$

$X_1 \longrightarrow$ The
$X_2 \longrightarrow$ PLURAL
$X_3 \longrightarrow$ DOG
$X_4 \longrightarrow$ Barked

3. $X_1 + X_2 + X_3 + X_4 \quad \xrightarrow{{}^{T}\text{permutation}} \quad X_1 + X_2 + X_3 + X_4$
$(X_1 + \text{CHILD} + \text{S} + X_4)$

$X_1 + \text{CHILD} + \text{S} + X_4 \quad \xrightarrow{{}^{T}\text{affixation}} \xrightarrow{{}^{T}\text{terminal}} \quad X_1 + X_3 0\ X_2 + X_4$
(The children studied)

$X_1 \longrightarrow$ The
$X_2 \longrightarrow$ PLURAL
$X_3 \longrightarrow$ 1 Child
$X_4 \longrightarrow$ Studied

4. $X_1 + X_2 + X_3 + X_4 \quad \xrightarrow{{}^{T}\text{permutation}} \quad X_1 + X_3 + X_2 + X_4$
$(X_1 + \text{HORSE} + \text{S} + X_4)$

$X_1 + \text{HORSE} + \text{S} + X_4 \quad \xrightarrow{{}^{T}\text{affixation}} \xrightarrow{{}^{T}\text{terminal}} \quad X_1 + \text{horses} + X_4$
(Spotted horses ran)

$X_1 \longrightarrow$ Spotted
$X_2 \longrightarrow$ PLURAL
$X_3 \longrightarrow$ Horse
$X_4 \longrightarrow$ Ran

Unit 804
Worksheet No. 2 cont.

Name ____________________

5. $X1+ X_2+ X_3+ X_4$ $\xrightarrow{{}^{T}\text{permutation}}$ $X_1+ X_3+ X_2+ X_4$
(X_1+ CLOCK + S + X_4)

X_1+ CLOCK + S + X_4 $\xrightarrow{{}^{T}\text{affixation}}$ X_1+ clocks + X_4

$\xrightarrow{{}^{T}\text{transformation}}$ (Five clocks ticked)

$X_1 \longrightarrow$ Five
$X_2 \longrightarrow$ PLURAL
$X_3 \longrightarrow$ Clock
$X_4 \longrightarrow$ Ticked

6. $X_1+ X_2+ X_3+ X_4$ $\xrightarrow{{}^{T}\text{permutation}}$ $X_1+ X_3+ X_2+ X_4$
(X_1+ S HE + X_4)

X + S + HE + X_4 $\xrightarrow{{}^{T}\text{affixation}}$ X1+ they + X 4

$\xrightarrow{\text{T- transformation}}$ (however, they operated computers

$X_1 \longrightarrow$ However
$X_2 \longrightarrow$ PLURAL
$X_3 \longrightarrow$ he
$X_4 \longrightarrow$ operated computers

II. Make a list of NOUNS that have irregular plurals and give the plural for each.

Unit 804 7 c
Worksheet No. 3 Name ______________________________

Make the necessary adjustments in the verb BE when PLURAL is chosen

1. The farm is well-cultivated.

2. A chevrolet was speeding up the long driveway.

3. The pink house was ours.

4. The canadian Pacific train is now running a transcontinental route.

5. My corn is hurting.

6. The train is late.

Choose SING instead of PLUR and make the necessary adjustments in the verb.

7. Some roses are red.

8. Mountains are sometimes formed by earth quakes.

9. When the signal lights fail to work, there is danger.

10. Shingles were falling off the roof of the dilapidated shack.

The same adjustments made in the noun, often the adding of an $\begin{bmatrix}-s\\-z\\-az\end{bmatrix}$ at the end of the word, are paralleled in certain determiners. Look at the Deep Phrase marker diagram once more. Note that there are two branches to DEFINITE DETERMINER, the DEMONSTRATIVE AND THE NON-DEMONSTRATIVE. Which is "the"?

(NON-DEM)

Does anyone know the demonstrative forms?

(This, that)

What do these forms denote?

(position in relation to the speaker. They narrow the extension of the noun by making it subordinate to the speaker's existence or specification.)

The Demonstrative is, then a definite determiner. It is special in that it is affected by the choice of SING or PLUR. The effect of the Plural adjustment also makes the demonstrative available for use as a NOM - that is; the demonstrative can have the NOM deleted and function as a PRONOUN. The following worksheet will illustrate these properties of the demonstrative:

Unit 804
Worksheet No 4 Name ________________________

Choose PLURAL

1.)SING(+ DEM + BUOY + MARK + a dangerous shoal.
)PLUR(

2)SING(+ DEM + donkey + can climb any mountain.
)PLUR(

3. trailer train looks a mile long.

4. Construction crew makes only the overpass on the superhighways.

5. Trailer home is priced at $3000.

6. This fish shop sells both fresh water and salt water seafood.

7. This outdoor point withstands any weather.

8. That used car lot is really just a junk joint.

9. That lily pad reminds Bill of the aquarium in Sante Fe.

10. Those Canadian coins are collector's items .

11. These sea gulls can swallow a five-pound catfish whole.

Unit 804
Worksheet No.5 Name ______________________________

DIRECTIONS: Name the nodes you go through to get to each of the terminals listed below. The starting node is provided for you.

A. Starting Node: SPECIFICATION

Example: a DETERMINER, NON-DEFINITE

1. [#] ______________________________

2. [s]
[z]
[az]
other ______________________________

3. this ______________________________

4. that ______________________________

5. the ______________________________

B. Starting Node: NOM

Example: rock CONCRETE, COUNT, INAMINATE

1. John ______________________________

2. rice ______________________________

3. cause ______________________________

Unit 804
Answer sheet for Worksheet No. 5

A. Starting Node: SPECIFICATION

1. [#] NUMBER, SINGULAR, 0

2. $\begin{bmatrix} \text{s} \\ \text{z} \\ \text{az} \end{bmatrix}$
other NUMBER, PLURAL, s

3. this DETERMINER, DEFINITE, DEMONSTRATIVE, IMMEDIATE

4. that DETERMINER, DEFINITE, DEMONSTRATIVE, ROMOTE

5. the DETERMINER, DEFINITE, NON-DEMONSTRATIVE

B. Starting Node: NOM

1. John CONCRETE, COUNT, ANIMATE

2. rice CONCRETE, MASS

3. cause ABSTRACT

The path through a series of nodes to a terminal is a cereful and accurate description of the terminal in terms of the categories it belongs to. We say that red "is a" color because the color red belongs to the category "color". In the same way we can say that "the" "is a" "definite determiner" and that a definite determiner "is a" part of "specification".

Does the "is a" description work equally for expansion and selection?

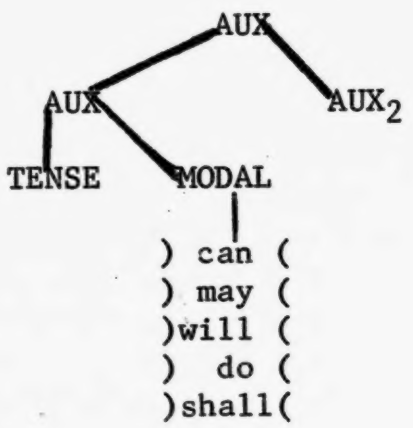
(No. Only selection since expansion are part-whole relationships.)

Other terms linguists use to distinguish these types of structure is "headed" and "non-headed" or "endocentric" and "exocentric". Can we say NOM"is a" sentence?

(No. Sentence is non-headed or exocentric.)

Can we say can "is a" MODAL?

(Yes. Because the members of the category MODAL do not combine to form a phrase.)



Can we say MODAL "is a" AUX?

(No. TENSE + MODAL form AUX.)

This helps us to realize that when we are trying to show production of a sentence we need to distinguish between categories that are selections and those that are expansions because they don't work the same way. Think of the production of the specification system as you do the generation in Worksheet No 5.

Unit 804
Worksheet No 5.

Name ____________________

I. DIRECTIONS: Generate 5 NOM phrases according to the rewrite given for each. Trace the path designated and provide a phrase which meets the description.

EXAMPLE: SINGULAR + DEMONSTRATIVE + ^{N}count ^{T}terminal this dog

1. SINGULAR + DEMONSTRATIVE + ^{N}count ^{T}terminal
2. SINGULAR + NON-DEMONSTRATIVE + ^{N}mass ^{T}terminal
3. SINGULAR + NON-DEFINITE + ^{N}count ^{T}terminal
4. PLURAL + DEMONSTRATIVE + ^{N}count ^{T}terminal
5. SINGULAR + NON-DEMONSTRATIVE + ^{N}abstract ^{T}terminal

II. Generate 5 more NOM phrases as you did in Part I. This time, find your own rewrites.

1.
2.
3.
4.
5.

III. Are there examples of NOM phrases with or without specification that you feel this system does not produce?

TEACHER NOTE FOR PART III:

These following items are examples of transformations; therefore they are not handled by the tree-branch diagram. The students may suggest similar phrases.

1. The lion is an animal
   (Transformation of "all lions are animals." Universal qualification)

2. of + SPECIFICATION NOM. (Predeterminers)
   Examples: of the people
   of the boys

3. all, both, only (pre-articles)

Unit 804
Worksheet No. 6 (Supplementary)

This worksheet is going to review three ways of reading the tree branch diagrams. Fo each section below, study the example done for you and trace the path on the diagram When you understand the description of the path given in the example, make a similar description of the paths you would go through for each of the terminals provided.

PART I

Example: this
This is the IMMEDIATE, DEMONSTRATIVE, DEFINITE DETERMINER in SPECIFICATIO of NOM.

1. the

2. John

3. [s]
[z]
[az]
[other]

4. a

PART II

Example: this
the left branch of S contains SPECIFICATION OF NOM, DETERMINER, DEFINITE-DETERMINER, DEMONSTRATIVE -DEFINITE -DETERMINER, IMMEDIATE - DEMONSTRATIVE DEFINITE - DETERMINER.

1. rock

2. [#]

3. that

4. cause

PART III

Example: this
This is the left branch of DEMONSTRATIVE which is the left branch of DEFINITE which is the left branch of DETERMINER,which is the right bran of SPECIFICATION.

1. rice

2. that

3. John

4. a

We have also noticed that, in most cases, the choice of a PLURAL requires a change in the form of the count noun which follows. For example, one says "the" or "a" brat, but, a choice of "six of some" requires brats. Notice that it is the choice of PLUR not of "the" which requires this change, for we can say the brats, too. That is, if we "mean to say" that there are more than one, or more than one set, of things, we accompany our expression with a particular sound or set of sounds to carry this meaning across. In a general way, all such sound-and-meaning changes in the form of words are called morphonemic. The term is made up of the Greek word "morph" which means "form" and the more modern derivation "phoneme" which means a sound that signals a distinction contrast; that is, a contrast which distinguishes a meaning as between but and pot. A morphophonemic change, however, is one which alters a form to which some previous process has already given independence. This morphophonemic change then, takes place in the case of enumeration when there are countable nouns. Can you think of a morphophonemic change that takes place when one is specifying the position of an object, the somewhere relations?

LIST ON THE BOARD

Here try to get the students to vocalize all the possible ways in which they indicate where.

List 5

here
there
in the _____
on the _____
under the_____
over there
over here
somewhere
anywhere
out

to the leeward
starboard
left
right (to jail)
north
south
inside
outside
that way-away
around the house

hence
in Europe
through the clouds
over their heads
nearer
farther
closer
toward
alone the edge
at college, school
European
anteroom
transAtlantic
crosstown
uptown
downtown
throughcity
southward
lost
moved
leaving

Do you see any common elements in this list? Are there any sentences a computer would sort out easily?

(It is near
It is nearer
It is nearest)

Are there any morphophonemic changes in the words in these sentences?

(Yes. Near changes to "nearer" by the affixation of the suffix "-er" or the suffix "-est".)

CLASS DRILL

List the words you can think of that indicate place and will take the morphophonemic affixes "-er" and "-est".

(close, near, far (irregular),etc.)

Are there very many?

(No.)

Does this morphonemic change occur in any other than a "place" designation?

(Yes. With adjectives such as pretty, large, etc.)

CLASS DRILL

List some adjectives which will take the suffixes we have been using.

TRANSITION

(pretty, large, small, green, grassy, etc.)

There are other changes which take place when we specify the NOM, then. We can specify it by telling where it is. But we can also specify it by telling what disposition its parts are in, what its appearance to the eye or ear or smell or taste or touch involve, what it has over it, etc. All these designations or modifications help the receiver of our message to pick out whether we are extending the NOM to universal proportions or specifying a particualr object from among the entire set of countable objects or narrowing the number of countable objects we wish to have considered as belonging to the set of which we are speaking.

We will go into the problems of modification more deeply after we first establish another method of showing the relation between the NOM and the specificatio of place which helps narrow down the size of the category to which it could belong:

Should we say that any of these words or phrases are impossible in the position

It's ____________________

(possibly these)

How about It's a ____________________

(transAtlantic + (N)
crosstown + (N)
throughcity +(N)
uptown + (N)
antepenult + (N)
European + (N)

northside + (N)

How many of these will fit in the position

__________ it is!

(Most seem rather awkward, don't they? Even a little foreign sounding. But Here it is and there it is are quite common.

This single reversal of words, interchanging of position, or permutation, then seems to contradict what we have been saying about categories of words, doesn't it? For It's here and Here it is! seem to mean about the same thing; yet they stand in different word order relationships. They illustrate, however, third principle of linquistic formation that is that there are processes by which the order of linquistic forms previously established can be changed. The process as we have seen, is known as transformation. Our use of language varies greatly with our situation and purposes. Sometimes the whole matter of our expected response is a matter of emphasis. If we get across "what we mean" the very first time, we may expect less trouble in obtaining the response we want. Perhaps a return to our "where" problem will make this point more practical. Imagine for a moment how complicated our life would be if we were still, with our wealth of experience, limited to the two-word sentence such as we used in our infancy. We could possibly get along and even express quite complicated sets of ideas, but in many ways our expression would be clumsy. Instead of saying "the ball is outside under the south porch", we would have to take these various specifications of "where" and break them all down into two-word utterances such as;

Ball outside.
Ball under.
Porch south.
Ball-porch.

Such a series might not be in the best order. Because the deep phrase marker for Ball outside and Ball porch are different but the first word is the same, it is likely that we would not be understood. People need more guideposts to grasp what is being said.

As you see, not every set of words can undergo these transformations. Here and there transform rather easily. We would have more difficulty with "Inside", or "to the left", at least with "it is". In a general way, however, with phrases that tell WHERE, there is always a possibility that the phrase can be moved to the front of the utterance in this manner, since the kind of move to be made is concerned with "place" phrases, and since "there" is a kind of easy model, we could call this transformations the "there transformation". Under this general term then would fall all the transformations of there or WHERE words and phrases when we take them to the front of the sentence across BE.

ACTIVITY

Are there any other transformations possible with these three words?

(Is it there?)

And the difference made by this transformation is in the kind of response you require from the hearer. That is, when you say, "It is there" or "There it is", you expect a response that indicates listening. But when you say "Is it there?", you ordinarily are expecting an answer. "It is there?" is a question, then and a question indicates to the listener that an answer response is expected.

Here teach how to describe this in generalized statements from leading questions in case they don't know.

Is there anyting else in the pattern that is changed?

(the intonation)

Is there any way in which this same pattern might mean an exclamation of surprise or contradiction?

(Is is there! or Is it there! (well, I'll tell the world.)

Unit 804
Worksheet No. 7

Name ______________________________

NOM + BE + ADV
place

The book is here .	The book here .
The cup is on the table .	The cup on the table.
The boy is in the kitchen .	The boy in the kitchen ,
The man is in jail .	The man in jail.
The record is on the shelf.	the record on the shelf.
The girls are in the car.	The girls in the car.
The store is on 5th street	The store on 5th street.
The secretary is in the office.	The secretary in the office.
the flask is on the counter	The flask on the counter.

In the deep phrase marker, what made the difference between questions and statements?

(Intonation)

Do you think the intonation pattern learned by a child changes much as a person grows older?

(No. The rising intonation for yes-no questions and falling for statments seems fairly stable.)

The pronunciation, then, of the sentence produced by a question transformation, ^{T}ques., must be accompanied by a question intonation or it will still not be understood. In the written situation, we supply the intonation by using what marks?

(Punctuation - Question mark, period, etc.)

Are all questions formed by the same ^{T}ques? (Call for statements and try the simple inversion on each.)

(No. For all verbs except BE a pro-verb insertion is required for yes-no questions: Do you have. . . Did he go . . .? Do they think . . .? etc.)

The transformational statement which describes this process, then, would be

$I_s + N + V$ __________ $^{T}\text{ques} + \text{Do} + V + N$.

Are there any questions which require other answers then yes or no?

(Questions asking where, when, what, why, etc.)

These questions have a common phonological characteristic as we have listed them. What is it?

(WH ---)

The Wh question transformations are even more interesting than the simple inversion and the insertion of Do. The Wh__ form is inserted wherever the information blank occurs in the statement and then the order is reversed.

$I_s + N + V + \text{Something}$ ______ $I_s + N + V + \text{WH}\ldots$

$^{T}\text{ques} + W + \text{Do} + N + V$

One of the basic transformations, then, is the question transformation. The simple emphasis inversion with which this discussion began is less important.

from the point of view that it is completely optional and doesn't substantially change either the meaning or the response expectation. But let us pursue the possibilities of emphasis transformations a little farther,because while they may not be important on the most basic level, they are very important form the point of view of approach. You recall that communicated from one mind to another. Let's try it with the help of BE and a relation fixer.

(Ball is outside
Ball is under
Porch is south
Ball under porch.)

Yes, somehow or other the relation between "Ball" and "porch" cannot be expressed by BE. By leaving BE out altogether the relationship between the ball and the porch becomes much clearer. The phrase "under the porch" then is a kind of phrasal extension of the simpler more general sentence, "It is there." It becomes specified by "the", a determiner which shows the choice of difinite and by a subordinate of "it" (if "it" at some time in the development of the language means the class of all objects.) Also "ball" shows that SING was chosen. It is under the porch is more specific (or specified than It is there.) The word under indicates a special relationship between the ball and the porch and is tied to both 'ball' and 'porch' because it sets up symbolically the kind of agreement that keeps us thinking of them together - or in relation to each other. Most grammarians have called this set of words prepositions, to show that they stand in a position "before" or 'ahead of'. The name was probably a good one when such pointers were only optional additions to point out a relationship that was contained in the case of the word, as in Latin where the dative, accusative, etc. case defined the relationship. Now that inflections have almost entirely been lost from English, the so-called preposition really sets up the relationship. It might better be called a between-positioner relation-fixer. We listened earlier a number of possible 'place' specifiers which were in the substitution category for "there." In almost every case there are longer or shorter or different ways to say these same things. (Ask students to try to think of various paraphrases.)

N Which was in ________

T_{which} N + BE + PREP + NP $\xrightarrow{\qquad}$ N + WHICH + PREP + NP

the N in the ______

$T_{del.}$ N + WHICH + PREP + NP $\xrightarrow{\qquad}$ N + PREP + NP

the N in the north $\xrightarrow{\qquad}$ the ______ N.

N + PREP + NP → NP + N

ACTIVITY

A. Decide which of list 5 can be used in each Trans. above.

B. Try to discover the restrictions which keep certain items out of one or the other class.

The sentence It is moving presents a few special problems. Perhaps you have had some background in the structure of English which would lead you to make certain statements about this sentence. What might you say?

> (is moving is the complete predicate, is is a helper. "Moving" is a present participle, "is moving" is the present progressive tense. etc.)

These statements are probably all true to some extent. What happens when making them, however, is that a most imporatnt factor is ignored. I will lead up to this factor by showing you another sentence:

> It's moved

This could be either "It is moved" or "it has moved." Would there be any difference in the meaning? What? (let the students speculate. Their answers are not as important as the next step, and probably the dialect the students speaks determines whether or not there is difference in meaning.)

> It's moving. (?
> It's Moved. (

What if "It" referred to a book or a TV drama? Could a permutation transformation be applied to It's moving?

> (Yes, if the N were there as the drama is moving → the moving drama)

to It's moved?

> (probably not)

Do these two sentences donote the same kind of "moving"

> a) the book is moving → A moving book moving on
> b) the horse is moving → A moving horse moving?

> No. in (a) moving → poignant, evocative
> (b) moving → walking, sitting, etc.

The structure N BE V - ing is ambiguous in this and in many other cases. This is partly because of the ease with which we use this particualar nominalizing transformation and partly because this transformation seems to be the same in both cases. That is it seems that

a) N BE poignant → poignant N is the same as
b) N BE V - ing → V-ing N.

It is clear, however, that they are meaning. And this difference is accounted for by the difference in their deep phrase markers. Is the BE of (a) the same as the BE of (b)?

(No. (b) BE is an AUX)

It is precisely this difference in the "history" of the two sentences which makes them differently understood. That is, because we know that "the book is evocative" has a different meaning from "the horse is moving", as we can surely see if we use the same sense of moving " under his own powers" and apply it in"the book is moving" -which would imply some sort of preternatural happening. What is the deep phrase marker of the book is evocative?

N + BE + AJ

And of "the horse is moving"?

N + AUX + V
N PRES + BE + ING + V

Conclusion: The meaning of the nominalization is difficult because the deep phrase marker is different. We understand (a) as (g) because we understand (a) and we understand (b) as (b) because we understand (b) and can trace its history back.

REVIEW THE PASSIVE
TRANSFORMATION

Unit 804
Worksheet No. 8

Name ______________________

NOM + is for + V-ing _____ V-ing + NOM

1. The dog is for hunting
   The hunting dog
2. The glass is for magnifying.
   The magnifying glass
3. The machine is for adding.
   The adding machine
4. The fluid is for cleaning
   The cleaning fluid.
5. The pool is for swimming
   The swimming pool.
6. The glass is for drinking.
   The drinking glass.
7. The committee is for investigating.
   The investigating committee.
8. The paper is for drawing.
   The drawing paper.
9. The machine is for voting.
   The voting machine.
10. The post is for trading
    The trading post.

The transformation N + BE + AJ AJ + N is basically the Modification transformation. Because its result is very like N + AUX + V-ing V-ingN, we tend to think of the V-ing in the same way as we think of an AJ modifier. There is, however, a distinct difference in the kind of denotation the V-ing has on the following N after this Transformation. Remember this structure is derived from a V. Because of its derivation, it retains some of its verbal properties. Among these properties, in English, is its ability to denote either

a) an aspect of continuous or
b) an aspect of completed action

At least when the V is one which denotes action (Not all do).

The (a) aspect of continuous action or motion may be either a continuing series as "tapping" or"blinking" - or it may be an action which by its nature cannot be performed in a single point of time, such as "stroking". Just so, the (b) aspect of completed action or motion may refer either to a completed single action or a complete series of acts as "He struck the gong" or "He stammered out the woods."

Unit 804
Worksheet No 9.

Name ______________________________

NOM + BE + ADJ ________ Black horse

1. The horse is black
   The black horse

2. The house is big
   The big house

3. The table is round
   The round table

4. The leg is broken
   The broken leg

5. The mouse is white
   The white mouse

6. The branch is divided
   The divided branch

7. The teacher is tired
   The tired teacher.

In a general way, almost all verbs can be used in either a continuous or a completed aspect. When used as verbs as we have seen in the previous unit. In the prenomial position, this "aspect" is carried by the verbal ending.

(a) The carriage is moved
(even looked insulted) → the moved carriage

(b) The carriage is moving
(carriage looked majestic) → the moving

In (a) the aspect of the carriage is a static one, a passive or receptive one. Someone or something else has acted upon it. In (b) the aspect of the carriage is a dynamic one. It is seen under way. This contrast between passive or static dynamic is a basic contrast in the English verb system. At the moment we are only considering the aspect as it affects nominalizations but we have already considered it in our study of the verb phrase.

We said that the similarity of the transforms of ADJ and V-ing tended to abscure the difference in their history. It even tends to make us wonder if V-ing is really in many cases an AJ. Now I will show you some other transforms which have the same general form as these two modifications:

school teacher
motorboat
window ledge
singing lessons

Do these transforms have the same deep phrase marker as those we have just studied?

(no. *The teacher is school
*The boat is motor
*The ledge is window
*The lessons are singing .)

Can anyone figure out what the history of these phrases might be?

(a) The person teaches school
(b) The boat has a motor
(c) The window has a ledge
(d) The lessons are for a person who sings

In each of these cases there is a different transformation involved. We could name the transformations according to the kind of permutation and Verb type involved.

(a) $N_1 + V + N_2 \longrightarrow N_1 + V + er$

(b) $N_1 + \text{HAVE} + N_2 \longrightarrow N_2 + N_1$ $(^{T}\text{VHave OB-SUBJ})$

(c) $N_1 + {}^{V}Have + N \longrightarrow N_1 + N_2\,({}^{TV}Have\ \ SUBJ\text{-}OB)$

*N.B.

(d) $N_1 + BE + PREP + N_2 + WH + V \longrightarrow V + ING + N_1$

The least sentence brings up the important question of suprasegmentals. Obviously the phrase singing lesson needs its primary stress on sing to make the derivation clear. For most students at this age level it should suffice to point out that like the question intonation this suprasegmental system goes alone with the particular transformation. Gifted students may wish to devise a way to state this fact in the metalanguage. Contrastive stress patterns may be noted in:

moving cár
ticking clock
wrápping paper
rapping sóund
wríting paper
wríting test
writing bóy

The placement of primary stress seems directly related to the deep phrase marker, though in use, it may turn out to be a matter of contrastive emphasis. This matter will be taken up in Unit 905, Stuctures of Emphasis.

Unit 804
Worksheet No. 10

Name ______________________________

$NOM_1 + \text{is made of} + NOM_2 \longrightarrow NOM_2 + NOM_1$

1. The money is made of paper
   The paper money

2. The wall is made of stone
   The stone wall

3. The machine is made of steel
   The steel machine

4. The can is made of tin.
   The tin can

Review the permutation transformation of modification and test comprehension before moving into the next section.

Turn back to the original list of phrases that indicate place. You will recall that most of these phrases when after BE resisted the permutative 'there' transformation. Is there any other transformation, say in the sentence,

the river is here.

This will probably take leading questions.

which may prove productive with these other phrases?

(the river here.)

What generalized transformation would you call an operation such as that?

(something is omitted, taken out, deleted)

Deletion is the term most linquists agree on. How would this transformation be stated?

N + BE + ADV ______ N + ADV

How many other phrases will readily take this transformation?

N.B.

Since all this nominalizing these transformations develope out of the need to include more ideas in the same sentence, it is clear that in many cases phrases will have to be added to make the transformations plausible As:

the room is somewhere ______ a room anywhere in the vicinity.

Note also that many of these nominalizations alter the determiner, since they specify definite members of a larger set by stating the thing's spatial relationship to the other things.

ACTIVITY

The nominalizations we have covered so far have been generally more compact than the original, that is, most of them have involved some deletion. Only a few have involved an expansion at the same time. Since, however, transformations come about as we have said, because of the need to arrange many ideas in the same sentence, expensions too are often pertinent to help deliver the desired emphasis or specification.

Let us return to our basic sentence "It's there". A common nonspecifying pronoun which could be substituted for it is "one". What determiners can be used to specify "one"?

("the one
this one
that one
the first one, etc.")

How many variations can you get using NOM + BE + there when NOM $\xrightarrow{\quad}$ DET + one.

One is there	*The one is there
This one is there	But the one there is the
That one is there	one I mean

Use transformation deletion (^{T}del.) on all possible sentences with"one" as NOM.

What expansion transformations could you think of?

the one who is on the left
the one which is first on the list
the one that is on the table etc.

These WH transformations are related to the WH transformations we discussed earlier. Most of these transformations specify, though they may have as secondary functions and pointing up of an aspect or the indication of spatial (or other disposition of the modified Noun.

It might be well to introduce the term headword here or sooner.

Unit 804
Worksheet No. 11 Name ______________________

Clausal Modifiers

ADJ

1. This is the place where Bob Dylan started singing.

2. This is the house that Jack built.

3. I sewed a dress which is a copy of a Chanel.

4. Edgar Allan Poe wrote many parodies which are unknown to a majority of readers.

5. Sarah Orne Jewett described her native surroundings which were located on the New England coast.

ADV.

1. Shelly laughed as though he could not finish his routine.

2. Mad magazine contains more intelligent materials than most so-called "spurious".

3. If your advertising ideas are as good as your agency head's, they will not be accepted.

4. National TV news coverage is becoming more complete than ever.

5. I became an English teacher because Mr. Novack was convincing.

UNIT TEST

PART I. Essay-type questions.

1. In general, the process of specification is a matter of determining the extension of the NOM. Explain, using the following sentences as illustrations:

    The lion is a man-eater.
    The lion is a carnivorous animal.
    A lion can be tamed.
    Lions can be tamed.
    A lion in the end cage began to roar.

2. Linguists who belong to the transformational school think that modification is a process by which a NOM-PRED relationship is transformed into a nominalization. write the transformational rules by which sentence A was transformed into a nominalization A.

    Sentence A: The beast is black.
    Nominalization A: The black beast.

    Explain what is meant by the "history"of Nominalization A.

3. Discuss the value for communication of having at your command a number of varying intonations. Make your discussion concrete by explaining the value of different emphasis on words of a sentence such as "We like our team."

PART II. Practical applications.

Combine the following ideas into a single paragraph. Use as many transformed sentences as possible. List the transformations in the margin.

1. Iowa State University is in Ames, Iowa.
2. Some 14,000 students attend Iowa State University.
3. Some students have morning classes.
4. All the students hear the bells.
5. The bells are on campus.
6. The bells are carillon
7. The bells play serenades.
8. Gold Star Hall is a building.
9. Gold Star Hall is on campus.
10. Gold Star Hall has a bronze sign of the Zodiac set in the floor.
11. Some students have a superstition.
12. Some students have stepped on the bronze sign.
13. Some students flunk their examinations.
14. Some examinations are flunked by students who stepped on the sign.
15. Some students rush to their morning classes.
16. Some students stroll with their dates.
17. Some students stroll in the evening.
18. The campus has a campanile.
19. Some students avoid stepping on the bronze sign of Zodiac.
20. These students do not flunk.
21. Some students forget the superstition.
22. These students flunk, according to tradition.

UNIT TEST (CON'T)

PART III. IDENTIFICATION

1. Selection, expansion, node, transformation deletion, transformation permutation, transformation terminal, transformation There, Intonation statement, Intonation question.